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## New Systemics for Control of Cotton Insects Announced

**2 Compounds Showing  
Promise in Belt-Wide  
Experiments, USDA Says**

HARLINGEN, TEXAS—Two systemic phosphorus insecticides being tested currently for control of pests in cotton show great promise. The American Cotton Congress, meeting here June 3, was told. Dr. K. P. Ewing, head of the cotton insect research program for USDA, making the announcement, identified the test materials only by code numbers 3911 and 12008.

These systemics have been applied to cotton seed planted at Florence, S.C., Stoneville, Miss., Tallulah, La., Waco and Brownsville, Texas, and Tucson, Ariz., Dr. Ewing reported. The experimental plantings range in size from one-tenth acre to 10-acre plots.

A number of evaluations of the compounds are to be made by entomologists of the USDA Agricultural Research Service, stationed at these locations. They will compare the ability of these materials to control such early-season cotton pests as thrips, aphids and spider mites with results on similar check plots and also on fields of cotton sprayed with presently-recommended insecticides.

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## RECORD CROWD EXPECTED

## Program Complete for National Plant Food Institute Meeting

WHITE SULPHUR SPRINGS, W. VA. — All details have now been completed for the big preliminary meeting of the National Plant Food Institute to be held at the Greenbrier Hotel here, June 12-15. Planned jointly by the American Plant Food Council and the National Fertilizer Assn., the program will feature leaders of both government and the manufacturing industry. A record crowd is expected to attend the convention. Scheduled for the morning of Monday, June 13, is a panel discussion on "Problems Relating to Fertilizer-

Pesticide Mixtures," and on Tuesday morning a general session will be held with E. A. Geoghegan, Southern Cotton Oil Co., New Orleans, La., as chairman.

Both he, as a representative of NFA, and Edwin Pate, Dixie Guano Co., Laurinburg, N.C., as chairman of the board of the American Plant Food Council, will speak on the Tuesday morning program.

Other events scheduled for Tuesday morning include a youth panel

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## Survey Shows Gain in Number Of States Permitting Mixtures

RICHMOND, VA.—A questionnaire recently sent to control officials in the U.S., Canada, Hawaii and Puerto Rico, indicates that there are still many unsolved problems regarding fertilizer-pesticide mixtures, but at the same time, progress has been made since a similar query was sent out in 1954.

Rodney C. Berry, Virginia control official, has announced the results of his 1955 questionnaire, in which officials in all the states were asked

to reply to specific questions regarding the manufacture and sale of fertilizer - pesticide mixtures. The respondents were also invited to comment on various phases of the problem in the light of their own experience.

Of significance is the fact that the mixtures are being sold in a wider area than they were at this time last year. Six more states reported that the mixtures are being sold within their borders, than were noted in re-

sults of a similar query made by Mr. Berry in 1954. (See Croplife, July 19, 1954, page 1.)

Changes were also noted in attitudes toward the idea in general. Last year a number of states voiced strict disapproval of such mixtures, whereas in this year's replies, only one declared that applications for registration are being refused. Many of the others hinted at reluctance in granting approval, but said that pressure has made it necessary.

Here are the questions and a tabulation of replies as received by Mr. Berry:

### Q. Are Fertilizer - Pesticide Mixtures Sold in Your State?

An increasing number of states indicate that such mixtures are sold within their borders. The only ones indicating that such are NOT sold in their areas are Arkansas, Mississippi, Montana, New Jersey, New Mexico, New York, Rhode Island, Texas, Utah and Wyoming. Two states did not reply to the question, however. They were Iowa and Nevada.

States which have seen sales of mixtures begin since last year's questionnaire was reported, include Louisiana, No. Dakota, Oklahoma, Tennessee, Vermont and West Virginia. All of these states answered the question negatively in 1954, but indicated that mixtures are now being sold there presently.

In qualifying its reply to the question, Arkansas stated: "Some is being

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## Formosa Awarded FOA Authorization for Fertilizer Equipment

WASHINGTON — Foreign Operations Administration has granted a \$2,878,000 procurement authorization to Formosa for machinery and equipment for the urea plant of Taiwan Fertilizer Co. Contract period is from June 1 to Dec. 31, and terminal delivery date is Dec. 31, 1956.

## New Fertilizer Firm Formed in Wisconsin

MADISON, WIS.—University Fertilizer Corp. has been formed here with an authorized capital stock of 1,250 shares of no par value. Incorporation papers were signed by William A. Chatterton, William Bradford Smith and James P. Mann, the latter being named the registered agent for the corporation at 1196 Edgehill Drive, Madison 5, Wis.

## Peanut Support

WASHINGTON—The U.S. Department of Agriculture has announced that price support on 1955 crop peanuts will be available at a national average minimum level of \$244.80 ton.

## Gypsy Moth, Budworm Spraying Projects Set In New Mexico, Maine

Plans for spraying large acreages of forest for control of spruce budworm and gypsy moth are going ahead this week in widely separated areas of the U.S. A spruce budworm control project in New Mexico, scheduled for this month, will involve 446,000 acres. In Maine plans are under way for spraying 14,000 acres to stop a gypsy moth infestation. Meanwhile, preparations were going forward for the spraying of two million acres of forest in Quebec and New Brunswick (see World Report, page 21).

### — MAINE —

AUGUSTA, ME.—The Maine Forestry Department plans to spray 14,000 acres of forestland and 86 miles of roadside areas in 50 towns where mid-winter surveys have shown infestations of the gypsy moth to be most serious. Forest spraying will be done from low flying airplanes, which will be operated in the early morning and in the evening, when wind and air conditions are the most favorable. Roadside spraying for the most part will be with ground sprayers. A DDT spray, containing a pound of the chemical in a gallon of oil solution for each acre to be sprayed, will be used.

### — NEW MEXICO —

ALBUQUERQUE, N.M.—A total of 446,000 acres of national forest timber in northern New Mexico will be sprayed with DDT this month to battle a serious spruce budworm infestation.

The budworm (*Choristoneura fumiferana*) has developed to epidemic proportions over an area of about 750,000 acres in the mixed-conifer and spruce-fir forests in New Mexico during the past few years, say U.S. Forest Service officials.

This month's spraying project, financed by a \$625,000 congressional appropriation, covers the heaviest infestations and the most valuable public commercial forest timberlands within the state. A lighter incidence of the pest is reported in other forests in New Mexico and Arizona.

A committee of private, state and federal experts estimates that forest insects, predominantly the budworm, have destroyed 1½ billion board feet of lumber in the two states in the 10 years between 1942 and 1952.

Insecticide contractor for the spraying project is Heckathorn & Co., Richmond, Cal.

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## INSECT, PLANT DISEASE NOTES

See Page 4



# USDA Announces 1956 State Wheat Acreage Allotments

WASHINGTON — State wheat acreage allotments for the 1956 crop were announced May 18 by the U.S. Department of Agriculture. State allotments are based on the national wheat acreage allotment of 55 million acres announced May 13.

Kansas, with 10,587,206 acres, has the largest state allotment. Other leading wheat states, with their allotments are: North Dakota 7,321,263 acres, Oklahoma 4,860,057 acres, Texas 4,227,136 acres, Montana 4,002,138 acres, Nebraska 3,200,332 acres, South Dakota 2,749,275 acres, Colorado 2,702,237 acres, and Washington 2,009,033 acres.

State allotments are based on wheat acreages for the past 10 years with adjustments for planting trends, weather and other factors. This formula provides for the establishment of state acreage allotments in line with recent wheat production patterns. For this reason, state allotments are not the same as those established last year when the national allotment was also 55 million acres.

County and individual farm allotments will vary from the 1955 figures

for the same reason. County allotments are determined on the same basis as the state allotments but individual farm allotments will be determined on the basis of wheat production during the most recent years, and in addition, tillable acres, crop rotation plans, type of soil and general topography of the farm are all considered.

## County Allotments

State Agricultural Stabilization and Conservation Committee (ASC) offices will determine county allotments on the basis of the state allotments. The county allotments will be broken down to individual farm allotments by county ASC committees. Each wheat producer will be advised of the acreage allotment for his farm prior to the wheat marketing quota referendum on June 25.

Legislative provisions authorize the designation as non-commercial wheat areas all states having wheat allotments of 25,000 acres or less. For 1956, the 12 states designated as non-commercial wheat states and the acreages that would have formed the basis for 1956 wheat allotments in each state follow: Alabama (14,505 acres); Arizona (17,533 acres); Connecticut (626 acres); Florida (1,329 acres); Louisiana (3,184 acres); Maine (1,347 acres); Massachusetts (687 acres); Mississippi (21,143 acres); Nevada (11,616 acres); New Hampshire (71 acres); Rhode Island (603 acres); and Vermont (432 acres). Farm wheat allotments and marketing quotas, if approved, will not apply in these states for the 1956 wheat crop.

Acreage allotments for the 36 commercial wheat states for 1956 compared with 1955 follow:

State—	Acreage allotted in 1955 (acres)	1956 Allotment (acres)
Arkansas .....	50,528	47,433
California .....	477,950	455,719
Colorado .....	2,877,216	2,702,237
Delaware .....	42,895	36,370
Georgia .....	105,610	105,624
Idaho .....	1,159,664	1,159,816
Illinois .....	1,375,942	1,384,461
Indiana .....	1,154,049	1,165,484
Iowa .....	138,057	139,443
Kansas .....	10,496,070	10,587,206
Kentucky .....	206,057	219,495
Maryland .....	203,953	187,546
Michigan .....	1,004,750	969,478
Minnesota .....	794,059	726,503
Missouri .....	1,141,147	1,163,686
Montana .....	4,029,466	4,002,138
Nebraska .....	3,207,330	3,200,332
New Jersey .....	59,252	55,141
New Mexico .....	447,354	465,924
New York .....	322,191	312,175
North Carolina .....	256,493	283,395
North Dakota .....	7,349,025	7,321,263
Ohio .....	1,599,297	1,594,233
Oklahoma .....	4,791,926	4,860,057
Oregon .....	807,897	819,522
Pennsylvania .....	639,642	620,185
South Carolina .....	136,763	133,488
South Dakota .....	2,776,584	2,749,275
Tennessee .....	201,261	199,261
Texas .....	4,207,578	4,227,136
Utah .....	317,363	314,994
Virginia .....	277,953	261,043
Washington .....	2,030,298	2,009,033
West Virginia .....	42,936	42,956
Wisconsin .....	55,213	45,174
Wyoming .....	291,219	303,725
Total commercial area .....	54,902,988	54,871,924
Total non-commercial area .....	71,912	73,076
National Reserve .....	25,100	55,000
Total .....	55,000,000	55,000,000

## Bruce B. Miner Named Connecticut Editor

NEW HAVEN, CONN.—Bruce B. Miner, editor and advertising manager of the Merrimack Farmers Exchange, Concord, N.H., has been named editor at the Connecticut Agricultural Experiment Station, Dr. James G. Horsfall, director, has announced. Mr. Miner replaces Miss Amanda Quackenbush, editor since 1944, who resigned recently to marry Gerald E. Zich of Trenton, N.J.

Mr. Miner, a native of Sheridan, N.Y., graduated from Cornell University in 1935 following which he did graduate work in agricultural economics and summer field work on agricultural surveys.

## NFA Ceases Publication Of Fertilizer News, Slants on the News

WASHINGTON — Fertilizer News, biweekly publication of the National Fertilizer Assn., has ceased publication with the May 27 issue. It is being replaced by a news-reporting service for members of the National Plant Food Institute, according to NFA.

Slants on the News, a weekly interpretive summary that has been distributed as a supplement to Fertilizer News, also is ceasing publication with the June 3 issue.

Whereas the two publications have been distributed to NFA members and those outside the industry with a direct interest in fertilizer, the new reporting service will serve only members of the NPFI.

"It is felt that with the excellent and timely coverage of industry activities and related fields now provided by the regular trade publications, NPFI should limit its reporting activities to those items directly of interest to its members," the NFA said.

NPFI, a consolidation of the National Fertilizer Assn. and the American Plant Food Council, is to become official July 1.

NFA's Fertilizer News started in 1927. Delbert L. Rucker is editor.

## Production, Shipments Of Superphosphate Show Gain in March

WASHINGTON — U.S. production of superphosphate during March amounted to 228,764 short tons (100% A.P.A.), according to the Bureau of the Census, Department of Commerce.

The figure represents an increase of 9% from the revised February, 1955 output and is about 1/2 of 1% more than the figure reported for the corresponding month of 1954.

Shipments of all grades of superphosphate totaled 196,441 tons for March or an increase of 43% from the revised previous month's volume and a 20% increase from the figure reported for March 1954.

Stocks on hand at the end of March were 21% less than those held on March 1, 1955 and 17% more than the quantities on hand as of March 31, 1954. These monthly figures (including percentage changes) are unadjusted for seasonal variation and number of working days.

## GRASS TESTS

LUBBOCK, TEXAS — More than 3,000 kinds of grass will be tested at the Texas Experiment stations in order to find species that are adapted to Southwest.



John F. Gale

## John F. Gale to Head Market Research for Garden Foundation

WASHINGTON — John F. Gale, economist and editor with the National Fertilizer Assn. since 1950, will join the staff of Garden Foundation, Inc., Baltimore, as manager of market research effective June 20.

He has been editor of National Fertilizer Review since the fall of 1953, and also has edited various of NFA's special publications.

He has served as secretary of NFA's Traffic Committee and has been active on the Plant Food Research Committee. He is a member of American Farm Economic Assn. Advisory Council of Federal Reports Industry Advisory Committee of Foreign Trade Commodity Classification and Atlantic States Shippers Advisory Board.

A one-time resident of Springfield, Ohio, Mr. Gale attended Wittenberg College where he was awarded his degree in economics. Prior to this he was with Ohio Steel Foundry Co. and Parker Pattern and Foundry Co. He served with the navy in the Pacific from 1944 to 1946.

## USDA OFFICES

WASHINGTON — Establishment of four regional business offices for the Agricultural Research Service of the U.S. Department of Agriculture has been announced by Dr. Byron Shaw, research administrator of USDA. Decentralization of the service's administrative and housekeeping functions to these regional offices—in Philadelphia (Wyndmoor, Pa.; Albany, Cal.; Minneapolis, and New Orleans—is scheduled to begin about July 1.



Dr. Edward L. Chandler

## Diamond Alkali Names Edward L. Chandler To Technical Post

CLEVELAND — Appointment of Dr. Edward L. Chandler to the technical staff of Diamond Alkali Co.'s Chlorinated Products Division was announced here recently by Loren P. Scoville, general manager of the division.

Having already assumed his new post, Dr. Chandler will be concerned chiefly with development of new agricultural chemicals as well as technical service on Diamond's present line of insecticides, herbicides and fungicides.

With headquarters at the company's research center at Painesville, Dr. Chandler will report to Dr. L. Gordon Utter, technical service manager of the Agricultural Chemicals Department.

A Kansan, born in Kansas City, Dr. Chandler comes to the Diamond organization from J. L. Hudson Co., Detroit, where he has been garden buyer and department manager for nearly two years. Following graduation from Kansas State College, Manhattan, with a B.S. degree in agriculture in 1949, Dr. Chandler attended Michigan State College, East Lansing. He received his doctorate there in horticulture in 1953. From February, 1945, to August, 1946, Dr. Chandler saw military service with the navy.



R. F. Chenik

W. E. Hoskinson

J. H. Knowlan

STAUFFER APPOINTMENTS—Dan J. Keating, director of agricultural chemical sales, Stauffer Chemical Co., has announced the appointment of R. F. Chenik, J. H. Knowlan and W. E. Hoskinson as sales representatives in the midwestern area. Mr. Chenik had been with Stauffer in the Texas area and Mr. Knowlan and Mr. Hoskinson are recent Texas A&M College graduates. All will be under the direction of Porter L. Williams of Stauffer Chicago office.



## Iowa State College Produces Movie on Soil Testing

JAMES, IOWA — A new movie entitled "Soil Test" has been produced by Iowa State College and is available for sale or rental.

The film, produced by the college's Film Production unit under supervision of the agronomy department, is 16 mm. sound and runs 22 minutes. The price, including can and reel, is \$190.

Rental arrangements can be made through the Visual Instruction Service Bldg. at Iowa State College. Preview prints are available for those wishing to purchase the film.

"Stars" of the film are Julius P. Tadwinkle and his three not-so-prosperous neighbors, Weak Dirt Willie, Pot Luck Pete and Haphazard Harry, who live at Hard-crabble Junction. By following good soil management practices, Julius Tadwinkle grows good crops, but his three neighbors won't listen to his advice.

Then, Julius gets an inspiration and sets out on a program to show his three neighbors—and the film's audience—how soil testing and proper soil management can produce high yields. The film uses cartoon farmers and real people to put across the importance of soil testing in a good farm program. As Weak Dirt Willie, Pot Luck Pete and Haphazard Harry discover the necessity of soil testing, scenes shot in the soil laboratory of Iowa State College show the steps taken before a recommendation is made. Principles and method play an equal part in the story of efficient fertilizer utilization.

To overcome the public relations difficulties involved three "poor" farmers were created to show how not to utilize fertilizer. And instead of going to complete animation, over-lys and still shots of the cartoons were mixed with real people to produce the film.

## New Liquid Fertilizer Plant Planned for Iowa

ROCHELLE, ILL. — The Farm Products Division of H. D. Campbell Co. here has announced plans to install a liquid fertilizer manufacturing plant at Strawberry Point, Iowa, for direct soil application formulations. The plant is part of the firm's hatchery operation at the Iowa site will be utilized, and new buildings and storage facilities will be added as needed. Wm. (Bill) Cannon, manager of Campbell's Farm Hatcheries, will also be in charge of the fertilizer formulation setup. Both operations will be managed as a unit, which is owned by H. D. Campbell.

Several other processing locations are under consideration for similar plant installations in other states. The Campbell firm has a franchise plan for production units in some areas.

The Strawberry Point, Iowa, unit will be ready for fall operation, but orders are now being accepted and delivered in bulk from the Rochelle, Ill., plant. Storage facilities are to be installed for bulk materials and barrels and small packaged goods will be warehoused for distribution to dealers in eastern Iowa and adjoining territory.

A complete line of weed killers, insecticides and other agricultural chemicals will also be warehoused at Strawberry Point for distribution in the area.

LEAVES BATTELLE INSTITUTE  
COLUMBUS, OHIO—Dr. K. Starr Oster has resigned from his position of consultant at Battelle Institute to accept that of technical advisor to the managing vice president of Alton Box Board Co., Alton, Ill., effective July 1.



John E. Sanford

## John E. Sanford, Armour Fertilizer President, Retires

ATLANTA — John E. Sanford, of Atlanta, president for the past 23 years of Armour Fertilizer Works, Inc., retired June 3.

Mr. Sanford, also a vice president of the parent Armour & Co., Chicago, from 1932 until his retirement, devoted all 51 years of his business career to the fertilizer industry. He started with Tennessee Chemical Co., which was bought by Armour in 1909.

A native of Huntsville, Ala., Mr. Sanford was promoted from salesman to assistant manager of the Nashville (Tenn.) division in 1913. Three years later, he was appointed division manager in Atlanta, and in 1923 became vice president of Armour Fertilizer Works in Chicago.

He was elected president of Armour Fertilizer Works in 1932, the same year that the general offices were moved to Atlanta, and was named vice president of Armour & Co.

Mr. Sanford is a director of the First National Bank of Atlanta, chairman of the industrial advisory committee of the Federal Reserve Bank of Atlanta and a director of the American Plant Food Council, Inc., Washington. He served for a number of years as a member of the board of directors of Armour & Co.

Armour Fertilizer Works, with national headquarters and a plant in Atlanta, has 31 branch plants and offices in the U.S. and in Cuba and Puerto Rico, including two phosphate rock-producing plants, located at mines in Bartow, Fla., and Columbia, Tenn. The firm manufactures and sells plant food for all farms and crops for home and garden use.

Mr. and Mrs. Sanford are planning to leave on a European tour early in July with one of their granddaughters, Nancy Lee Boynton, daughter of Mr. and Mrs. L. Ralph Boynton, of Atlanta. Their son, John B. Sanford, and Mrs. Sanford, also live in Atlanta. He is associated with Armour Fertilizer Works.

## SALES DIP SLIGHTLY

WASHINGTON—March, 1955, sales of feeds and farm and garden supplies were down 2% compared with March, 1954, according to figures released by the U.S. Department of Commerce. March sales soared 31% over February sales this year while sales for the first three months of 1955 were 2% lower than for a similar period last year. The percentages are based on estimates of dollar volume sales by U.S. retailers.

## MIGHTY BIG STATE

BIG SPRING, TEXAS — Texas is a mighty big state. Down at Harlingen they are getting ready to give \$2,500 for the first bale of cotton, which is expected any day now. Up near Hale Center where eight inches of rain fell recently, farmers are waiting for the fields to dry sufficiently for re-planting.

## Grace Chair of Chemistry Established At Johns Hopkins

BALTIMORE—Dr. Lowell J. Reed, president of the Johns Hopkins University, has announced that the Davison Chemical Co., Division of W. R. Grace & Co., has established a new professorship at the university to be known as the "Grace Chair of Chemistry."

At the same time Dr. Reed announced that Dr. Paul H. Emmett of the Mellon Institute of Industrial Research in Pittsburgh had accepted the invitation to fill this new chair, which will signify for Johns Hopkins an extension of its research and teaching in the rapidly growing field of chemistry.

## Entomology Head Named At Colorado A&M

FT. COLLINS, COLO.—Leslie B. Daniels has been named head of the Department of Entomology at Colorado A&M College.

Mr. Daniels has been associate professor and acting head of the department, and his assignment as head of the department is effective July 1. He received his doctor's degree at the University of Minnesota last month. He previously received both his bachelor's and master's degrees at the same institution.

## Alabama Fertilizer Conference to Be Series of Tours

AUBURN, ALA.—Alabama's 1955 Fertilizer Conference will be a series of tours and meetings throughout the state. The annual conference for dealers, distributors and manufacturers of fertilizer is to be held June 7-10 at substations and experiment fields of the Alabama Polytechnic Institute Agricultural Experiment Station system. This conference is designed to encourage local fertilizer dealers to join the tours of points nearest them, said J. C. Lowery, API extension agronomist, in telling plans for the meetings.

Sponsored by the experiment station and the extension service in cooperation with the Alabama Soil Fertility Society, the conference will begin June 7 with tours of the North Alabama Horticulture Substation at Cullman and the Tennessee Valley Substation at Belle Mina. Other points to be visited are the substation at Winfield, June 8; the substation at Camden, and the Monroeville Experiment Field, June 9, and the substation at Fairhope, June 10.

## HERCULES EXPANDS PLANT

BURLINGTON, N.J. — Hercules Powder Co. has announced the beginning of construction of a new \$4 million addition to its plant here. The facility will manufacture dimethyl terephthalate, basic chemical for Terylene, a synthetic fibre to be made in Canada by Canadian Industries, Ltd.

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# INSECT, PLANT DISEASE NOTES

## Orchard Pests Noted In Indiana Report

VINCENNES, IND.—Codling moth egg hatching increased during the past week. New entries have been readily found since May 18, and oviposition records show that all eggs laid prior to May 16 have hatched. Those laid May 17 are in the black head stage and those laid May 22 are in the red ring stage.

Examination of 79 overwintering codling moth specimens under overwintering tree trunk bands on May 23 showed 32% of the overwintering larvae emerged, 49% in the pupal stage, and 19% as larvae still to transform. These data indicate that first brood activity will continue throughout June. (In contrast to these data 66% of the larvae in overwintering emergence cages have emerged. Past experience has shown that band records are the more reliable indicator of codling moth activity.) All eggs laid prior to May 17 had hatched by May 24.

European red mite infestations at present are generally light. Weather conditions the past week were not favorable for rapid build-up.

Elm leaf beetle larvae are hatching in the vicinity of Vincennes. The usual protective sprays are now needed on Chinese elm if defoliation is to be prevented.—D. W. Hamilton.

## Many Insect Species Counted in New Mexico

STATE COLLEGE, N.M.—Grasshoppers have taken over center stage this week in New Mexico. Almost complete hatch is reported in northwest Lea County with 750,000 acres now known to be infested. An area on the northeastern half of the county has not been checked, but scattered comments from ranchers indicate that there may be an infestation in this area also. An area of about 40,000 acres of land near Nara Visa has had a hatch and averages 50 hoppers per square yard. The northwest section of Chaves County also reports a large area infested.

The infestation on the College Ranch has spread southwest for approximately 1.5 miles and appears to be still moving. The grasshoppers are now within two miles of the lush farming area of the Mesilla Valley. No grass injury has shown up so far in the path left by the grasshoppers.

Yellow clover aphids are still building up and have covered the entire Mesilla Valley. Checks on yellow clover throughout the Mesilla Valley have revealed no yellow clover aphids present. Fields where yellow clover is bordering on alfalfa show no aphids on yellow clover even after the alfalfa has been cut. From all appearances, the aphid feeding on New Mexico alfalfa is at least a biological variety of the original *Myzocallis trifolii* (Monel).—A. E. Triviz.

## Grasshoppers? They Have Them in Missouri

COLUMBIA, MO.—Armyworm damage to barley became severe during the latter part of the week, and can be expected to continue heavy throughout the central part of the state during the coming week. In several places, worms are on the move, which means crops other than barley must also be watched.

There have been a lot of acres sprayed during the past few days, and many more need it immediately. Parasitism is running quite high, but it is not going to stop the worms fast enough to stop head clipping in barley.

We still doubt that wheat will be heavily damaged unless it is down.

Legumes growing under the wheat will undoubtedly be cleaned out in many fields, however, unless the fields are sprayed.

It is probable that there will be considerable leaf stripping on wheat, but since it will remain green for a couple of weeks or so longer than barley, head clipping will not start for some time. We believe parasites will reduce the worms before any great amount of clipping of wheat heads starts.

We're now to the place where residues are a problem on barley. Since it is an open headed grain, the insecticide will get directly on the grain. Actually any one who sprays barley from here on out is taking a chance on having residues left on the grain. From here on, farmers are taking a chance on a contaminated crop if they spray.

During the past week, there has been a tremendous build-up of English grain aphid. This is the aphid being found up in the heads of the wheat, and in some cases, oats. It is extremely hard to decide when these insects are numerous enough to justify spraying. The best information we have, however, indicates that if you can find an average of about 35 aphids per head over the entire field, spraying is in order. If we continue with cool, damp weather, the aphids will continue to increase.

Grasshoppers? We've really got them. In fact, the state as a whole has more hoppers now than we had at this time last year. From 100 to 200 little hoppers per square yard is common in many areas of the state.

We've been harping on grasshoppers for a long time now. We realize folks are probably tired of hearing us talk about them. But apparently we haven't talked enough. At least only a very small fraction of the spraying that needs to be done now is being done. We believe these hoppers are an extremely serious threat to Missouri agriculture this year. The only way to eliminate this threat is to spray now. All farmers are urged to check pastures, field margins, etc., for young hoppers.

Actually, the only thing that could save us from being eaten up again this year—unless a lot more spraying is done within the next week or so—is to have a wet summer. This will help keep crop damage down, but with the number of hoppers we now have, it looks as though that regardless of how much rainfall we get, crop damage is very apt to be heavy.—Stirling Kyd and Geo. W. Thomas.

## Armyworms Thick In Eastern Kansas

MANHATTAN, KANSAS — Destructive populations of armyworms were observed in many barley fields of east central and southeast Kansas. Not all fields are infested, however, but counts of 5 to 14 larvae per square foot were found in a majority of the fields that were surveyed. A few fields had counts of 20 to 30 larvae per square foot and one pasture in Crawford County had a population of 33 per square foot.

Although barley is suffering greatest loss at present, infestations were also found in wheat, brome, and pastures. Many heads are being cut from barley plants by the feeding larvae and yields will be greatly reduced if control measures are not initiated immediately. Fields located in the Kansas River Valley have similar infestations; however, the larvae are smaller and, in general, haven't started heavy feeding on the culms just below the grain heads.

Grasshopper populations continue to build up in many counties of

Kansas. Populations are highest in the eastern third of the state. Counts of 40 to 60 nymphs per square yard were found along roadsides and in fence rows at many survey stops. Some areas in Linn and Crawford had counts of 80 to 100 nymphs per square yard. Counts of 20 to 30 nymphs per square yard were observed along roadsides in Greeley and Wichita Counties of west central Kansas.

Moderate to heavy infestations of English grain aphids were found in nearly all barley and wheat fields that were surveyed in counties in southeast Kansas. Counts ranged from 8 to 27 aphids per head, although little visible injury to the heads was detected.

Observations show that false wireworm larvae in the fields surveyed in Greeley County, west central Kansas, have not pupated. Damage may be expected in early planted sorghum fields if seed is not treated with insecticides.

Yellow clover aphids were found in irrigated alfalfa fields in west central Kansas; however, populations were not of apparent economic importance. Numerous lady beetles were present in the infested fields.

No English grain aphids or greenbugs were found on wheat in sprayed fields of west central Kansas.—David L. Matthew, Jr.

## Iowa Reports Many Corn Borers in State

AMES, IOWA—First eggs of European corn borer were found at the Ankeny Corn Borer Laboratory May 23. There were 4 egg masses per 100 plants on 18 in. (extended) corn. Cool weather all week has delayed borer development. On May 24, in Madison County, one oats field showed 20% larvae, 80% pupae with 20% emerged. On May 25, in oats in Winnebago County we found 41% larvae, 59% pupae and captured 1 female moth. In Boone County on May 27, there was 98% pupation, 27% emerged with no egg masses in 32 fields of 8-10 in. corn. In Wright County one field showed 100% pupation with 24% emergence.

Tallest field corn in central Iowa is 20-24 inches extended. Recent rains will stimulate rapid growth in the next 10 days. We expect heaviest moth flight with normal weather in central Iowa about June 1, with peak egg laying June 10 and spraying of field corn June 10-15. In northern Iowa, these events will be about 1 week later.

Yellow striped armyworm (climbing or cotton cutworm) is damaging young corn in Story, Polk and Page Counties. This is black with 2 yellow stripes down its back. Dingy and dark sided cutworms were found in first year corn in Madison County. They averaged 3 per 50 feet of row and had cut off 2% of corn. Cutworms are also working in corn in Sac, Wright, and Plymouth Counties and in gardens in Adair County. In Plymouth County they are working 3 inches under the surface. Recent rains and cool weather may bring them up.

A few small wireworms were found in Madison County—damage slight. In Hancock County Lilly found 1-22 wireworms per hill in peat ground. Replanting was necessary.

Hatching of redleg and differential grasshoppers continues. Ten to twenty 1st-3rd instar hoppers per square yard in fence rows are common in central Iowa. Many eggs are still unhatched but were expected to hatch about June 5.

Damage to red clover blooms by the larvae of the lesser clover leaf weevil is generally heavy in Iowa. Insecticidal control measures are

not practical for this pest. Relying on the amount of bloom for the timing of mowing will be a poor policy for first crop red clover this year.

European elm scale eggs have hatched yet, so delay insecticide application until June 10-15. Because of the threat or presence of borers in elms, control of elm scale is well worthwhile this year to keep trees as vigorous as possible.

Woolly apple aphid is leaving elms in large numbers for apple trees. Here they will form root galls while making nursery stock unsalable. On yard plantings, drench the soil around the tree now with 2% lindane, and again about July 1.—Harold Gunderson.

## Massachusetts Busy Controlling Insect Pests

BOSTON—Massachusetts is fighting three pests, cutworms, gypsy moths and birch leaf miner. Cutworms are cutting down the cabbage plants, gypsy moths are infesting forests, and the first generation of the birch leaf miner is blistering the birches.

An airplane spray program, similar to the one undertaken last summer is underway to fight the gypsy moth with DDT. Both Chlordane and Dieldrin are being used for the cutworm. Lindane is being used to control the birch leaf miner. The adult fly the eggs from which the small miners hatch on birch trees, enter Massachusetts about the last of May and a second generation comes along in late June or early July. The eggs hatch into small miners which work inside the leaf turning them brown.

## Sheep Tick Control Concerns South Carolina

CLEMSON, S.C.—Several reports indicate that sheep, especially some of those being brought into the state are infested with the sheep tick. This is not a true tick but a louse. This insect is wingless and the entire body is covered with long, bristly hairs. It is often very injurious especially to lambs after shearing, it tends to migrate from old sheep to lambs. The larvae of this insect become full grown in the body of females, and they are born one at a time at intervals of several weeks.

Recent experiments at Wyoming indicate that dieldrin dust is an effective insecticide and stays in the wool long enough to kill the young ticks as they hatch. One and one-half percent dieldrin dust was used on June 2, 1954, and again 20 days later. The rate used was not greater than one-tenth pound per treatment. Slaughter tests showed that 86 days after treatment no trace of the chemical were found in kidney, fat, liver, or other flesh.

Boll weevil cage survival to date at Florence approaches the 23-year average. Weevil emergence in field slightly exceeds 1954 record. The infestation in Piedmont tends to increase. Yellow-striped armyworm present, and aphid infestations increase markedly. Spider mites served. Cutworm damages seedling cotton.

Tobacco wireworm damage is severe. Splitworm infestation originating from stored Irish potatoes not and vegetable weevil damage continues.

Tobacco hornworm is present, still by root nematode damage to corn serious.—S. C. Stribling.

## Armyworms Headline Illinois Insect Report

URBANA, ILL.—The most important development this past week was the anticipated occurrence of armyworms in rank grasses and grains east from St. Louis to Charleston, north to Champaign and westward to Peoria. This entire area appears to have a rather general



infestation of small worms in this type of field range from a few to 10 or more per linear foot of drill row. At present we cannot determine whether parasites or predators will help to control this. The next two weeks are very important in determining the need for actual control of these pests. 1 1/2 lb. per acre, or toxaphene at 1 1/2 to 2 lb. per acre, provides control. Do not treat wheat 15 days of harvest.

Corn borer development is still weeks earlier than normal. In south third of Illinois, pupation completed and moth emergence from 40 to 90%. In the center, pupation varies from 95%, and 5 to 15% of the moths have emerged; in the north, pupation ranges from 30 to 100%, and 1 to 5% of the moths emerged. Peak moth flight egg-laying will occur by June 15 in much of the infested area. Moths that are emerging now will lay eggs on small grains, flow-vegetables, and weeds.

Grasshopper hatch is now well under way, and small, newly-hatched grasshoppers are being found in fence roadsides, and ditch banks. If tiny grasshoppers are abundant, apply dieldrin at 1 to 1 1/2 lb. per acre, or aldrin at 1/2 lb. per acre, or heptachlor at 1/2 lb. Control while they are concentrated in areas.

Occasionally small grasshoppers can be found throughout grain fields, but on the grain and the legume. Examine fields at the earliest opportunity, and if these pests are present, control them before they injure the seeding.

Many bug adults are still present in thin stands of small grains in eastern and central Illinois. They are laying eggs, and tiny red nymphs are being found at the base of plants behind leaf sheaths. If serious damage is occurring, apply dieldrin at 1 to 1 1/2 lb. per acre. If the grain is not damaged, wait until migration, and control will not occur for a few weeks.

Present bean leaf beetles are feeding extensively on newly emerging soybeans, but unless complete defoliation is imminent, treatment is not necessary. In extreme cases, apply dieldrin at 1 to 1 1/2 lb. per acre, or aldrin at 1/2 lb. per acre, or toxaphene at 1 1/2 lb. per acre. This will control this pest.

Few fields of corn may require treatment because of damage by cutworms. Before replanting, apply dieldrin at 1 to 1 1/2 lb. per acre, or heptachlor at 1 1/2 lb. per acre. Fields of corn may be attacked by cutworms. Examine these fields for signs of damage, and if necessary apply 2 lb. toxaphene or dieldrin per acre as a band treatment over the row. Use at least 1 lb. finished spray per acre.

Unmatured plant bug nymphs are becoming very abundant on clovers and alfalfa. Although control measures may not be needed now, second growth of alfalfa and clover may be damaged.—H. B. Petty.

#### Prevalence of Corn Borer in Manitoba, Canada

WINNIPEG, MAN., CANADA — According to reports from the Entomology Laboratory of the Canada Department of Agriculture at Brandon, Manitoba, European corn borer infestations may be larger in the north this year. Relatively new to Manitoba, the pest invaded southern areas from Minnesota in 1948 and damage has been relatively light. There was an unusually large infestation in 1954 with 11% to 35% of the plants in the Morden district showing populations of from 5% to 10%.

Entomologists are concerned because the majority of the insects had reached the last stage of

pre-adult development at freeze-up, the stage best suited to winter survival. DDT and other sprays are effective only in the summer at that stage when after hatching, the tiny corn borers feed for a short time on the surface of the plant before entering the stalk.

Since 1939, when sweet clover weevil was reported in Manitoba, the annual losses of sweet clover seedlings have been extensive. The actual loss has been difficult to estimate. No weevil-resistant variety has been found although hundreds of worldwide selections have been tested.

#### Much Insect Activity in Minnesota

ST. PAUL, MINN. — During the period May 20 through May 25, grasshopper surveys were carried out in north-central and east-central Minnesota including Beltrami, Cass, Itasca, Aitkin, Carlton and Pine Counties. In Beltrami County, only a few nymphs were observed. Near Blackberry, in

Itasca County, 10 to 15 nymphs per square yard were counted, although no nymphs were found elsewhere in Itasca County. In Aitkin and Carlton Counties only occasional nymphs and very few eggs were found. 5-10 nymphs per square yard were noted in parts of Pine County.

Corn averaged 3 in. in height with some up to 6 in. in west-central and south-west Minnesota during the week ending May 28. In the South-west District, 41% of the European corn borers examined were in the larval stage, 55% in the pupal stage and 4% showed adult emergence. In west-central Minnesota pupation averaged 28% reaching 40% in Lac qui Parle County. No adult emergence was apparent. Pupation still remained ahead of corn development in comparison with 1954. Many pupae in the South-west District need only brief periods of warm temperatures to transform to adults. Germination of corn and plant development have been retarded by dry condition.

Egg laying that takes place in small corn could result in heavy mortality of first generation borers.

Armyworm adults were collected in Duluth, Thief River Falls and Worthington during the week ending May 28. Moths obtained from Thief River Falls were fresh and apparently originated in Minnesota. Where these moths are present in sufficient numbers, and where favorable lush, grassy egg laying hosts are present, survival of newly hatched larvae is likely to be high. A problem may develop where small grains have had ample moisture. Farmers and county agents, particularly in the north-west areas should begin watching grassy field margins or moist low spots in fields.

A small percentage of 5th instar larvae of forest tent caterpillar was reported from Pine County on May 25 and from Duluth on May 27. Most of the caterpillars are still 4th instar. Feeding should continue for about 10-14 days before pupation occurs unless colder weather delays development.—J. L. Butcher.

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# Protein Content of Wheat Boosted by Application of Nitrogen, Agronomists Say

—SEE PICTURE ON PAGE 8—

WALLA WALLA, WASH.—Agronomists from three colleges in the area, reported to the Pacific Northwest Crop Improvement Assn. here recently, that nitrogen fertilizer will increase wheat yields to the point where moisture becomes a limiting factor and also that the protein level of wheat is enhanced by the additional application of nitrogen.

This tentative conclusion, reached after a year's study, was based on reports by R. B. Bertramson and Glenn Leggett, Washington State college; K. H. Klages and Roger Harder, University of Idaho, and Horace B. Cheney and Al Hunter, Oregon State college.

The WSC men said they had carried on 30 fertilizer trials in eastern Washington during 1954.

"We got 28 responses to nitrogen and seven responses to sulfur," Mr. Leggett reported. He said soils in northwestern Washington—outside the commercial wheat area of the state—responded to phosphorus.

"We found that we don't increase protein until after we have reached optimum yield," he said. Charts were presented which showed protein increases from 40 and 80 lb. applications of nitrogen per acre while yields dropped two bushels.

"At \$12 an acre for nitrogen, we have to find some way to pay the farmer for the increased protein," Mr. Leggett said.

Mr. Bertramson said it had long been suspected by farmers that heavy use of nitrogen (which has become the practice in recent years

in this area) would reduce protein content of bread wheats and make them unfit for milling. He said the WSC research has dispelled this notion.

OSC soil scientist H. B. Cheney pointed out that many factors affect protein content of wheat: variety, moisture available throughout the growing season, temperature, available nitrogen and plant nutrients such as phosphorus and sulfur in addition to NPK.

"These factors operate together and it is difficult to fix one of them without considering the others," Mr. Cheney said.

He reported on 48 field trials carried on in Oregon in 10 to 13 inch rainfall areas. Oregon researchers testing both fall and spring applications of nitrogen on fall-sown wheat, found:

1. Significant increases in yield from fall application of N on 21 farms; five decreases of yield and eight with no significant change.
2. Significant increases under spring application on 42 of 48 farms. On 15 plots, fall application showed better response than spring, on twelve spring was better than fall and on 21 there was no difference.
3. Test weight of the wheat tended to increase with the yields.
4. Maximum yields were accompanied by 8 to 12% increase in protein. (In one hard red winter wheat—Turkey—protein started at 5 in the control plot and never did get above 8 or 9.)

Mr. Harder said the Idaho re-

searchers have been concentrating their efforts on finding maximum yields obtainable from nitrogen and are running a series of five year tests using the same plots.

"What we want to find out is: do maximum applications have to be cut back after the first year; what is the effect of nitrogen use on soil structure and erosion; what tilling practices and rotations give the best yield responses," Mr. Harder said.

Idaho tests have used up to 120 lb. nitrogen an acre. They have found that yields increase up to 100 lb. (at which protein content dropped from 12.26 to 11.34) and at 120 lb. yield dropped from 61.6 bu. at 100 lb. to 42.4 but protein increased to 13.17.

They also concluded that cropping history and cropping practice are important factors in yield responses.

Mark Barmore of the USDA's Western Wheat Quality laboratory at Pullman reported on milling and baking tests with new varieties of wheat being developed by plant breeders of this area.

O. A. Vogel, USDA agronomist at Pullman, reported on three new wheat varieties undergoing final tests at Oregon and Washington experiment stations. If they pass these tests they will be considered for release after harvest.

Officers were all reelected by the association. They are: Walter C. Mikkelsen, Preston-Shaffer Milling Co., Walla Walla, president; Art Lindberg, Oregon Wheat Growers League, Pendleton, vice president and Louis Pifer, Scott Jones Co., Walla Walla, treasurer.

William L. Haley, Fisher Flouring Mills Company, Seattle, succeeded Raymond P. Ramm, General Foods' Igleheart Brothers div., Pendleton, as chairman of the board of directors.

Changes on the board of directors were as follows:

M. P. Miller, Terminal Flouring Mills, Portland, succeeded E. H. Leonard, Preston-Shaffer Milling Co., Walla Walla; Ken Fisher, Fisher Flouring Mills Co., Seattle, succeeded Mr. Ramm, and Hoyt Wilbanks, Centennial Flouring Mills Co., Spokane, succeeded Wells Ostrander, Centennial, Seattle, as representative of the North Pacific Millers Assn.

Kenneth Fridley, Wasco, succeeded Art Lindberg as representative of the Oregon Wheat Growers League. Glen Bayne, Prosser, Mervin Phillips, Walla Walla, and Donald Moos, Edwall, succeeded John Miller, Garfield; Ray Small, Jr., Walla Walla, and John Stephenson, Benge, as representatives of the Washington Association of Wheat Growers.

Maurice Roe, Dayton, succeeded J. Mason Llewellyn, Wilbur, as representative of the Pacific Northwest Grain Dealers Assn.

W. P. Stapleton, Northern Pacific Railway Company agricultural agent at Seattle, succeeded Govert A. Dyke, Milwaukee Road agent at Spokane as railroad representative.

Verne Hendershott, First National Bank of Portland, Pendleton branch, succeeded H. W. Dickson, U.S. National Bank, Pendleton, as bank representative.

Ray Gustafson, Bemis Bro. Bag Co., Seattle, succeeded V. J. Langman, Ames-Harris-Neville Company, Portland, as representative of the bag companies.

Merrill D. Sather, Walla Walla, is executive secretary of the Assn.

## ROBERT TRULLINGER RETIRES

WASHINGTON — The retirement of Dr. Robert W. Trullinger as assistant administrator for experiment stations, Agricultural Research Service, effective June 1, has been announced by Dr. Byron T. Shaw, research administrator of the U.S. Department of Agriculture. Dr. E. C. Elting, deputy to Dr. Trullinger, is designated acting assistant administrator.



William Lee Guithues

## JOINS BRADLEY & BAKER

The appointment of William Lee Guithues as sales representative for the St. Louis office has been announced by Bradley & Baker, fertilizer sales organization with main offices in New York City. Mr. Guithues, who will cover the West North Central territory, was formerly associated with the Merchants' Exchange in St. Louis as assistant to the secretary, and as a research chemist with Darling & Co. He attended Northwestern University, majoring in chemistry, and served in the Navy Medical Dept. during World War II.

## Program Set for Annual Kansas State Agronomy Field Day

MANHATTAN, KANSAS — A discussion of liquid fertilizers by W. Smith, of the Kansas State College agronomy staff, will be heard at the annual agronomy field day program at Kansas State College here June 7.

Other speakers will be James A. McCain, college president, who will talk about agricultural research at the college, and F. C. Foley Lawrence, Kansas, chairman of the Kansas Water Resource Fact-Finding and Research Committee, who will discuss agricultural water sources.

Field experiments to be shown this year include experiments with pasture grasses, chemical weed control in oats, comparisons of chemical fertilizers and rotations as methods for soil improvement, the breeding of new cool-season grasses, breeding and improvement work with oats and wheat, fertilizer studies on oats, wheat and grasses and research with the new spreading alfalfa. The field day will start at 10 a.m. and run continuously until late afternoon.

## Witco Moves to New Executive Offices

NEW YORK—New executive offices of Witco Chemical Co. have been opened in the Chanin Bldg., 12 E. 42nd St., New York.

Since 1953, Witco has expanded its manufacturing, research and sales facilities. New plants have been opened in California, Oklahoma and England and production facilities have been enlarged at several other of the company's plants.

During the current year, Witco's Rubber Chemicals Division was created, and chemical manufacturing facilities of the Emulsol Corp. were purchased. In addition, Witco acquired a half interest in Ultra Chemical Works, Inc., which operates plants in Paterson, N.J., Joliet, Ill. and Hawthorne, Cal. Presently, Witco owns and operates 15 plants and four laboratories in the U.S. and England.

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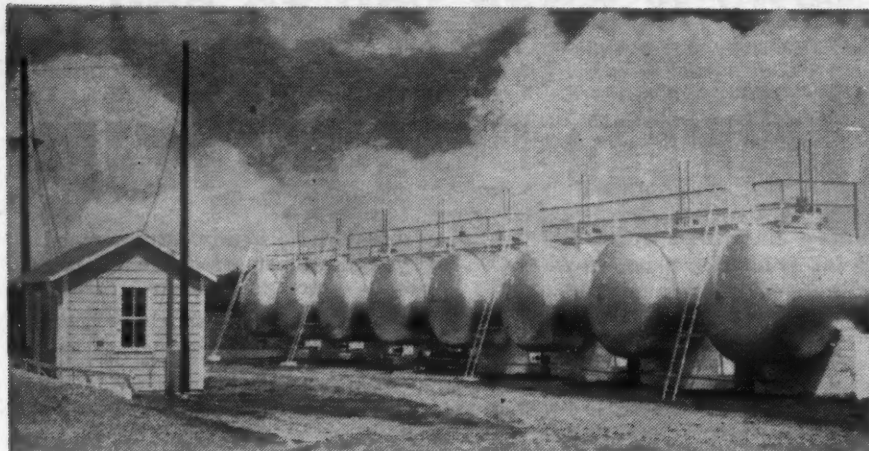
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## Crucial Period in Khapra Beetle Fight Approaching, Pacific Grain Group Told

WALLA WALLA, WASH. — This summer will tell the story on whether the khapra beetle infestations in California, Arizona and New Mexico can be eradicated, L. J. Padgett, chief of the plant pest control branch of the agricultural research services program, told the Pacific Northwest Grain Sanitation committee here May 25.

Mr. Padgett gave a full report on what has been done in the three states since the beetle was discovered in Alpaugh, Cal., in November, 1953. He also said there was little if any danger of the beetle spreading into the Pacific Northwest but warned that an inspection program should be established.

He said a big inspection and control program will be carried on in the southwest this summer to eradicate the menace to stored grain. California has spent more than \$500,000 in the last six months on its program and New Mexico and Arizona legislatures each appropriated \$45,000 for survey work in those states, Mr. Padgett told the committee.

He said 7,000 warehouses have been inspected since January, 1955, and only one spot outside the three states original infestation area has been discovered to have the beetle. More than 200 inspections in other states have turned up nothing.

### Factors in the Campaign

In answers to questions by committee members Mr. Padgett pointed out the following:

1. The khapra beetle, although a warm climate "bug," can survive in temperatures as low as 14° F. and has been found in England and North Korea. Its rate of reproduction is favored by cooler temperatures. Its optimum temperature is 95° and at this climate it reproduces every 26 days.

2. Losses in warehouses have run as high as 75% of the grain to the khapra. Where infestations of most grain "bugs" are "crown infestations" which go down no more than five feet, the khapra has been found down more than 20. One warehouse spent \$7,000 to control the pest and a month later found they still had losses of 30%.

3. Infestations found totaled 140 in California, 51 in Arizona and four in New Mexico. In California only 45 were in commercial warehouses and the rest in farm storage, feeder lots, etc. Twelve of the warehouses have been fumigated—of 50,000,000 cu. ft. infestation, 15,000,000 have been fumigated and 10,000,000 more will be fumigated by July 1.

4. A good survey job has been done in Texas, Oklahoma and Colorado. Since inspections started eight to 10 infestations have been found each two week period until a month ago. Since then only four have been discovered. "Two infestations exist in Mexico and we are working with Mexican officials and exchanging information to get them eradicated," Mr. Padgett said.

### Method

The method used to eradicate the beetle is to seal the warehouse or elevator, using tarpaulins and pumping in 32 oz. of methylbromide per 1000 cu. ft. of storage for 48 hours. Mr. Padgett said research conditions show that 12 oz. for 12 hours will get complete kill but the work is being done with a 600% safety factor.

Harold Lembright of the Dow Chemical Co. showed the committee film of some of the work being done in California on the khapra. Also on the day's program were reports by Dr. Kurt Swenson, Oregon State College; Dr. Dave Walker, Washington State College, and Dr. Howard Smith, University of Idaho,

on research work being done on grain insects in the Pacific Northwest.

Clyde C. Noyes, on loan to the U.S. Department of Agriculture from the University of Nebraska, told the committee of educational work being done in grain sanitation in other states and discussed Food and Drug Administration standards on wheat.

Pete Stallcop, executive secretary of the Pacific Northwest Grain Dealers Assn., reported that commercial storage facilities in the area are in excellent condition but some concern is being expressed by dealers over the fact that 20% of the storage grain in Washington is now in farm storage (April 1 grain stocks report), an unusually high percentage for the area.

He said members of his association have purchased 2,500 warning posters for their warehouses listing grain sanitation standards and pointing out to growers that they cannot accept contaminated grain for storage under Commodity Credit Corp. regulations for support loans.

"In our campaign we have always emphasized that 'the man who operates a clean house has no trouble with rodents' and we are telling the growers the same thing," he said.

The committee plans to re-issue its three year old pamphlet on insects, birds and rodents in stored grain after it has been revised.

The committee is composed of grain dealers, USDA agencies, millers, railroad and college representatives from Washington, Oregon and Idaho. R. W. Every, OSC extension entomologist, is chairman.

## Warehouses in Three States Set for Khapra Fumigation

WASHINGTON—A grain-storage-building fumigation program that USDA officials say is the largest of its type ever undertaken, is now underway against the khapra beetle in California, Arizona, and New Mexico. In this program, entire buildings—not merely their contents—are sealed over, so the fumigant will reach every crevice that might conceal the cranny-seeking beetle.

Fifteen large California grain warehouses have already been fumigated with methyl-bromide gas in an all-out effort to eradicate this stored-grain pest, first discovered in this country in 1953. State pest control agencies, property owners, chemical companies and pest control firms, USDA's Agricultural Research Service pest-control personnel and Agricultural Marketing Service research entomologists are cooperating in the work.

The beetle was eradicated from an infested California warehouse in an experimental fumigation-eradication test last January. This and other tests showed the effectiveness of the only practical method yet developed for eliminating this hard-to-kill insect from infested buildings. More than a million cubic feet of storage were wrapped in a gas-tight cover of sealed tarpaulins and given 2½ times the methyl-bromide dosage and 12 times the exposure duration normally required to kill exposed khapra beetles.

Since then, cooperating states and operators of the warehouses concerned have borne the cost of the eradication effort with assistance from USDA. Some warehouses yet to be treated contain as much as 6 million cu. ft. of space, with stacks or tanks rising as high as 135 ft.

## Middle West Soil Group Distributing Profitable Corn Folder

CHICAGO—A new four-color folder entitled "You can Grow Profitable Corn This Year" is now being distributed by the Middle West Soil Improvement Committee for sales promotion and educational use.

Member companies of MWSIC are using the folder in sales promotion work among their dealers and farmer customers and in contacts with educational outlets.

The committee is distributing copies of the folder to vocational agriculture teachers, county agents, extension workers, SCS personnel and other groups in the Corn Belt.

The eight-page folder uses pictures, graphs and charts to point up these factors in profitable corn production:

(1) The role of high yields in cutting the cost of production per acre; (2) The amount of plant nutrients needed to get those high yields; (3) The rate at which nutrients must be made available during the summer, and (4) The methods by which the nutrients can be applied.

In addition, the folder visualizes some of the common hunger signs that show on the leaves and ears of corn plants and stresses the need for efficient control of weeds, insects and diseases, if high yields are to be obtained.

### EXPANDS AD STAFF

SAN FRANCISCO—The California Spray-Chemical Corp. of Richmond, Cal. has expanded its advertising staff with the appointment of two men. John W. Wood, Jr., has been named by Louis F. Czufin, advertising manager, to handle copy, and Bernard Lowry will handle production on printed materials produced by the chemical manufacturing concern.



J. L. Keena

**STAUFFER APPOINTMENT** — Dan J. Keating, director of sales, Agricultural Chemicals Division, Stauffer Chemical Co., has announced the appointment of J. L. Keena as a sales representative in the Midwest Area. Mr. Keena headquarters in the company's Chicago office.

## Soil Conditioner, Lawn Service Firm Opens in Colorado

COLORADO SPRINGS, COLO.—Excelawn—a "lawn building package deal"—is being offered Pikes Peak region "do-it-yourself" gardeners with "problem lawns" by a newly opened soil conditioner firm here.

Agrite Enterprises, co-owned by John G. Maier and Gerald Spiegel, opened a retail-distributor outlet at 2233 Platte Place. Initially advertised product is Excelawn, a synthetic soil conditioner devised to cope with clay or adobe soils, "converting the physical structure of these problem soils to a good garden loam." Package deal consists of Excelawn, a commercial fertilizer and lawn seed. The new firm advertises the combination at a price to cover a given yard area.

Mr. Maier formerly represented the Minneapolis-Moline agricultural machinery firm in this area; prior to this was a county agent for 20 years in Minnesota. A graduate of Minnesota Agricultural College, he won and completed a soils scholarship there. He has lived in Colorado Springs for the past three years.

His partner in the new venture, Mr. Spiegel, formerly held the position of purchasing agent at Aircraft Mechanics, Inc., here, and managed several Iowa state farms prior to this.

The partners plan to market Excelawn throughout the Rocky Mountain region, adding related lines at later dates.

The new Agrite firm occupies 1,000 sq. ft. of space in a building located in suburban Colorado Springs. Until facilities are installed, the soil conditioner firm mixes and packages its products through arrangement with another firm. Newspaper, radio and color brochure advertising is being used to publicize Excelawn.

### NOPCO DIVIDEND

HARRISON, N.J. — A quarterly dividend of 35¢ a share has been declared by the board of directors of the Nopco Chemical Co. to holders of common stock of record at the close of business June 20, 1955. The dividend is payable June 30, 1955. According to Ralph Wechsler, president of Nopco, it is the 100th consecutive dividend awarded by the company to its stockholders since the payment of its first dividend on March 30, 1927.

Such an extensive undertaking is justified, pest control officials believe, if eradication can be accomplished.

The khapra beetle is the world's worst pest of stored grain in countries where it is well established. It is believed capable of building up, not only in the warmer states of the U.S., but also in heated warehouses all over the nation.

Khapra beetles have been found by control workers in warehouses 21 feet deep under solid masses of grain, and crawling on bags of insecticide. They have worked their way through a two-foot brick warehouse wall.

Federal and State quarantines prohibit shipment of grain, grain products, seed-bags, or other exposed materials from infested locations until they are thoroughly treated or found free of infestation. Under quarantine against the beetle, as of April 30, were 116 locations in California, 52 in Arizona, and 4 in New Mexico.

It is expected that known infested warehouses in New Mexico will be cleaned up within a few weeks. A second survey of farm storage in suspected areas is now underway. Surveys by ARS pest control inspectors, in cooperation with State Departments of Agriculture, have been made in parts of Texas and Louisiana, are now underway in Colorado, and will be extended to other States.

Mexican quarantines are in force against the insect, which has been found in two locations at Mexicali, in Lower California. Agricultural Research Service's khapra beetle field control program is under the direction of Lamar J. Padgett, with headquarters at Oakland, Cal.

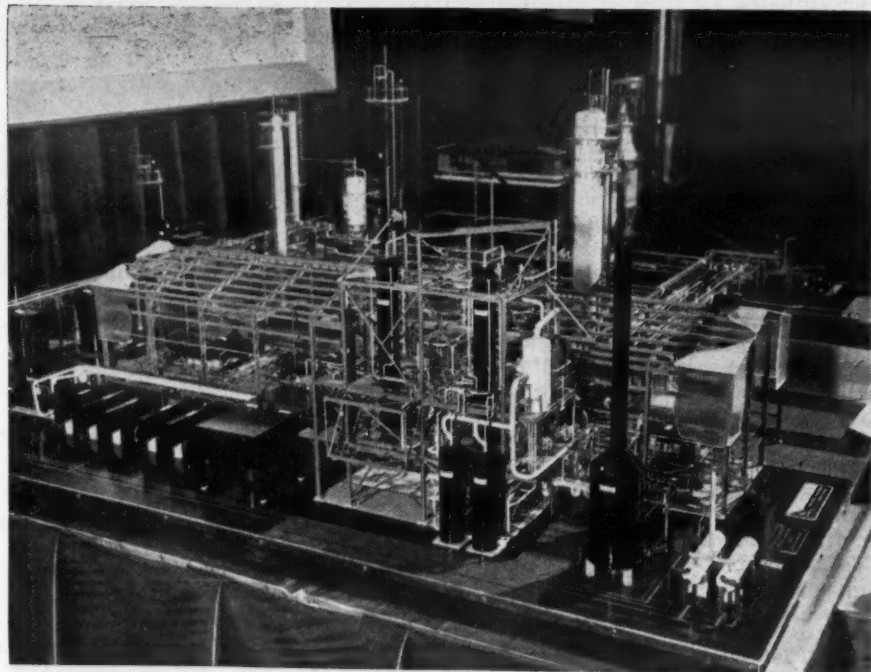




## Views of the News



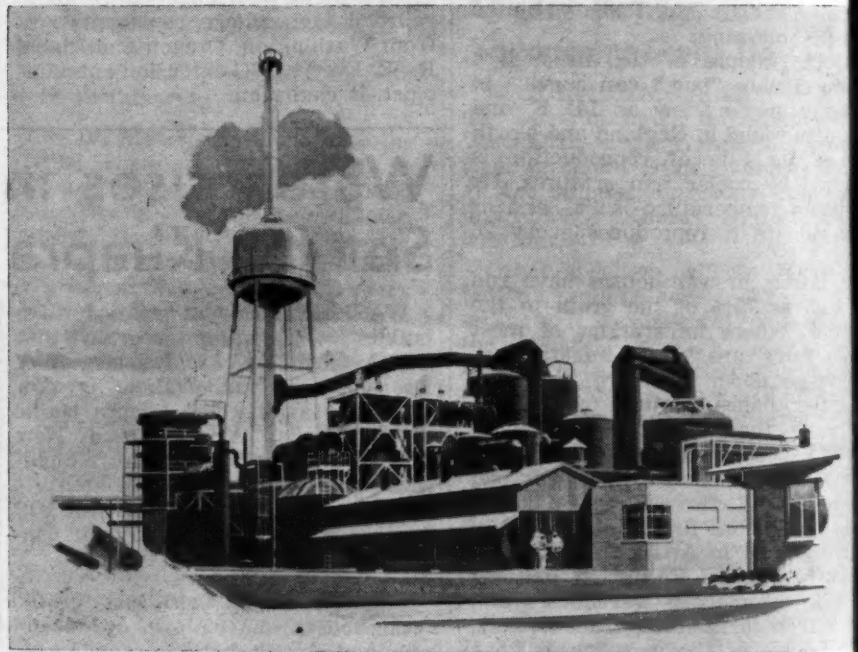
**DROUTH COUNTRY**—Above are two USDA photos taken during the recent tour of the Southwest drouth area by Ezra Taft Benson, secretary of agriculture. Above, Mr. Benson and Robert A. Nichols, director of New Mexico A&M College, climb a dust bank on a farm near Weber City, N.M. No measurable rainfall had fallen in the area since January. Below, Mr. Benson examines soil in a deep-listed field between Beyers and Deertrall, Colo. Man at the left is not identified. Since these pictures were taken considerable rain has relieved the drouth in many southwestern areas.



**SOHIO PLANT MODEL**—Shown above is a scale model of the new petrochemical plant of Sohio Chemical Co. The model will be used as a check guide during the construction period and for training technical personnel. The plant, being constructed at Lima, Ohio, is expected to be completed in November of this year. It will produce anhydrous ammonia, nitrate solutions and urea for agricultural use and nitric acid as an industrial chemical.



**PUTTING LIFE INTO SALESMEN**—Mrs. Ethel Wilkins and Richard Meisenbach, right, manager of LP-Gas and Anhydrous Ammonia Equipment Sales Division, show sales representatives of The J. B. Beaird Co., Inc., a sample of the new sales kit inspired by Beaird Advertising in Life magazine. The salesmen are among the more than 40 who attended the annual Beaird sales meeting May 9-13. Left to right, are Bert Newton, representing Florida and Atlantic coast; Leo Johnson, Illinois; Mrs. Wilkins, a Beaird switchboard operator; Dick Fletcher, who covers the Oregon-Washington territory; Pat Mahoney, California-Arizona sales representative, and Mr. Meisenbach. A review of 1954-55 sales, discussion of 1955-56 finance and credit programs, product development and improvements in production techniques were also discussed by top Beaird officials. Included among the speakers were J. L. Tullis, vice president and general manager of sales; C. T. Beaird, vice president and assistant general manager; J. G. O'Brien, vice president and treasurer; L. A. Sarosdy, vice president in charge of engineering; C. E. Russell, works manager, and M. A. Finuf, assistant general manager of sales. Attending the annual sales meeting from the LP-Gas and anhydrous ammonia equipment sales division were: J. L. Riseden, N. T. Adams, M. C. Phillips, Chapman Rice, L. W. Abbott, Fred Hendrix, Bert C. Newton, John D. Stacey, Leo Johnson, Harold Cochran, George Borgeson, Rod Johnson, Glenn McKinnon, N. F. Fletcher, E. G. Owens, T. H. Mahoney and Royce E. Walker.



**SULFURIC PLANT ON STREAM**—Consolidated Chemical Industries, Inc. has put on stream this sludge acid regeneration unit at its Baytown, Texas, plant. The new facilities solve the soil refineries' spent acid disposal problem and eliminate the danger of stream and air pollution. In this plant, sulfur extracted from heavy sludge acid and recombined into new acid. Complete material is shipped by tank truck, tank car or barge.



**AT CROP IMPROVEMENT MEETING**—Shown above, during recent meeting of the Pacific Northwest Crop Improvement Assn. are, from left to right, A. Vogel, U.S. Department of Agriculture, Pullman, Wash., a speaker; William L. Haley, Fisher Flouring Mills Co., Seattle, chairman of the board of the association; Walter C. Mikkelsen, Preston-Shaffer Milling Co., Walla Walla, Wash., president, and Merrill D. Sather, executive secretary. See story on page 6.

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Credit  
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By AL  
Crophil

The lineup of farm supply stores was spring, a paying fertilizer for houses and dealer and his were pretty were, for busin "Business is owner told me. "The only little is my h 35,000 on the course," he co fit just isn't t granting credi now farmers n they just have or it all at o or a large sh the milk chec next 60 days." "Does this asked.

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# Better Selling

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

## Credit Is a Privilege That the Customer Should Earn

COOPERATION, PUBLICITY NEEDED TO SELL FRESH VIEWPOINT TO FARMER

By AL. P. NELSON  
Croplife Special Writer

The lineup of farm trucks at the farm supply store was long, for it was spring, and the farmers were buying fertilizers, seeds, feeds, brood-houses and many other items. The dealer and his men looked as if they were pretty well fatigued, and they were, for business had been wonderful. "Business is swell right now," the owner told me, as we sat in his office. "The only thing that worries me a little is my book accounts. Got over \$5,000 on the books right now. Of course," he continued apologetically, "it just isn't that we're careless about granting credit. We're not. But right now farmers need so many things, and they just haven't got the cash to pay for it all at once. So I have to wait for a large share of my money from the milk checks the farmers get the next 60 days." "Does this happen every year," I asked.

The dealer nodded. "Sure, I always have to go to the bank for heavy loans this time of year to carry me over. But I don't lose many accounts, although I sure have to do some tall collecting during June and July."

"It would be wonderful if the farmers went to the bank to obtain loans to finance purchases from you, instead of your going to the bank for the loan."

He agreed. "Wouldn't it, though, but if I would suggest that to my customers—even the well off ones, they'd think I suspected them and their credit intentions. I'd lose quite a bit of trade. So I have to keep on granting credit and hoping I won't go broke. How can the situation be changed?"

I agreed that it would be difficult for one dealer to change credit practices. I told him, however, that the project could be changed through a credit club.

I suggested that he try to get all the farm supply dealers of his area together into a club and that the members agree on a county wide credit policy, this policy to be advertised far and wide and put into effect. Only when this type of unity is achieved, I told him, would there be any assurance that the job could be done right.

I think most dealers will agree that the farmer as a rule has the wrong credit impression of dealers and their responsibilities. Very few if any farmers would think of going into an appliance or furniture store, or even a department store, and making purchases on a charge basis (open account) and expect to get away with it before furnishing credit information and references. These farmers are not offended when other retailers ask for credit information. Why, then, should farmers feel offended when the farm supply dealer asks for the same information?

If the easy credit situation is to be changed there needs to be widespread advertising in the industry on the importance of prompt payment of fertilizer, feed and farm supply bills. The first step can be the posting of "good credit" signs in and about the store. Let the farmer see these. Then he knows you expect him to pay

his bills promptly, to keep his credit good. After these signs have been up for three to six months, you can begin to advertise credit responsibilities in newspaper ads. Don't say that you won't grant credit. Say, rather, that you will be glad to extend credit privileges when needed to applicants who have good credit ratings and references.

Thus you show the farmer that you consider credit a privilege, and that when you grant it, it is upon the credit rating of the applicant. Through such an advertising campaign, you can educate your trade to a new interpretation of credit, with its imposed conditions.

Many farmers think that a dealer should be glad to give them credit just because they come to his store or mill to buy, that you should be

glad to get the business. Furthermore, such farmers often think that they, not you, should choose the time when those bills are paid. On the contrary, it is the dealer who should set the time when bills are to be paid. This is the desirable condition.

If you have not as yet tried to establish the idea that credit at your store is a privilege which needs to be earned, it would be wise to start creating that impression now. Otherwise you can never expect to change the farmer's attitude toward business credit. He will continue to regard it as something that is due him from you.

One dealer told me that he has discovered that it does not pay to try to collect bills by telephone. "I hear that some other dealers have luck collecting by merely telephoning

(Continued on page 11)



### SHOP TALK

### OVER THE COUNTER

### FOR THE DEALER

By EMMET J. HOFFMAN  
Croplife Merchandising Editor

Tests conducted in retail stores show that sales can be increased 11% after a thorough sales training program is put into practice. The increase, it is shown, depends on several factors, such as the length of the sales training program, how well it is planned and its contents.

Many small dealers will not find a formal training program feasible, it is true. However, they can accomplish the same results by attempting to follow the same steps that larger stores, with perhaps over half a dozen or more employees, can use.

Any sales training program, simple or detailed, must be well planned in advance as to length of training, what it is to include, length of formal meetings, if any, and should be stimulating every minute.

It would be better never to stage a sales training program that is poorly planned, and stale from the minute it begins.

Any training program, whether arranged by the large dealer, or informal for the small store, must consider several essential steps in order to increase selling effectiveness of the salesmen:

1. Making better use of the employee's time, i.e., employee self-management.
2. Product knowledge; some basic knowledge of the production of farm chemicals; proper application; basic facts about farm management; marketing; the firm and competition.
3. Mechanics of selling; getting attention; creating interest; arousing desire and closing; allied selling; extra sales; greeting and thanking customers.

If the sales training program is formal, allow employees time for asking questions. Allow them to make suggestions. Formal training periods should be kept short—an hour is long enough. Some dealers have weekly training periods for one hour beginning immediately after the store closing on Monday or Tuesday.

Much help can be given by manufacturers in the way of training aids, subjects and in providing teachers.

Many manufacturers conduct schools and these are most worthwhile for the sales staff. Dealers ought to take fuller advantage of such manufacturers' courses.

### TV Sells Fertilizer

The Federal Chemical Co., a 75-year-old manufacturer of fertilizers, is among the first to use television to help convince farmers of fertilizer performance.

The company uses the Louisville station, WAVE-TV, which carries the show every Saturday from 12 noon to 1 p.m. It is estimated that over 50% of the 154,000 farms in the station's range have television sets.

The program places considerable stress on overcoming the still prevalent thinking by many farmers that nature, in the form of soil and moisture, is sufficient for the development of crops and feed. Live commercials are photographed right on a farm and the benefits of fertilization are actually shown to viewers.

Each show is devoted to one or two aspects of farming, e.g., soil, crops, livestock, machinery and the like. Almost every one is themed along the development angle. Crops, as well as livestock, are shown in progressive stages of growth.



By RAYMOND ROSSON  
County Agent, Washington County, Tenn.

A good dealer's faith is based on ability to serve people. He has faith in his way of merchandising and service and a whole lot of faith in his products. He has faith in his farmer customers and the non-farm customers.

Interest in other people nets a large volume of good will and the profits earned are based on the turnover of public relations.

Such investments are sound, because dividends accumulate by clipping confidence coupons and confidence is something you can take home with you.

It takes some pretty "classy" maneuvering for 13% (farmers) of our population to produce all the food and fiber for themselves and the other 87% to decide what to plant, when to plant, how to plant, the kind and amount of plant food to use. There's breeding, feeding, cultivating, harvesting and marketing to consider, while trying to out-guess the weather, insects and disease.

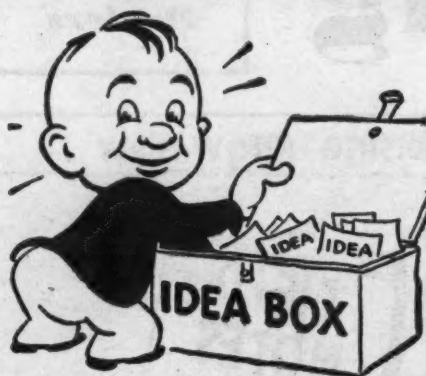
At this point is where the experiment stations, dealers, county agricultural agents and vo-ag teachers come in. Yes, they should be well informed, capable, experienced, interested and possess an understanding of current farm problems.

We should always keep in mind that it is easier to over-plant than to over-fertilize and many farmers are better breeders than they are feeders. "Yes, sir, I have it," is much better for the dealer and the farmer than "I'll see if I can get it." It is also much better for the farmer to push his work than for his work to push him. The same thing applies to information as well as to merchandising. Remember, "For the want of a nail, the shoe was lost, etc."

### DROUTH VICTIM

GUADALAJARA, MEXICO — The long drouth has finally almost strangled this once flourishing city in West Central Mexico. A power shortage caused by the drying up of Lake Chapala has reduced the use of electricity to only three hours per day. Bank deposits have dropped, businesses have closed and medical products requiring refrigeration are in short supply. At one time thousands of irrigated acres supported a large rural population and brought prosperity to the city. Now this land is dry and barren, and livestock are without grass. In hopes of filling the lake and bringing moisture to the parched lands, the chamber of commerce is bringing down 12 rain-making scientists from the U.S.





## What's New...

### In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

#### No. 6255—Chemicals Booklet

Its family of chemical products for agriculture are depicted in words and pictures in a booklet, "The Story of the Chemicals You Live By," published by the Diamond Alkali Co. The booklet, in its fourth edition, contains 24 pages and one entire section is devoted to herbicides and insecticides manufactured by the company. The booklet is available without charge. Check No. 6255 on the coupon and drop it in the mail.

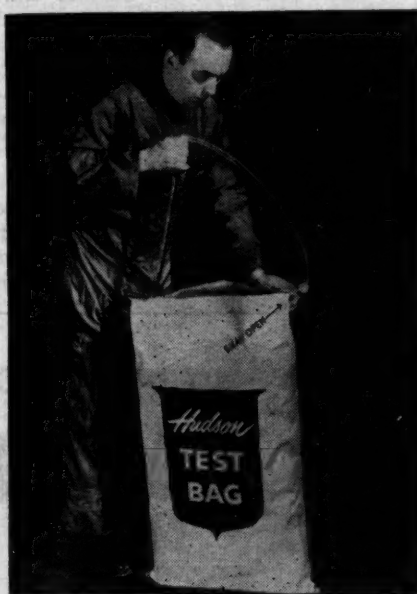
#### No. 6254—Insect Display Box

An insect display box designed by an entomologist to aid in the identification of common cereal pests is offered by the Mid-Western Spray Chemical Co., Inc. Produced by the Bio-Preparations Co., the box is 8 in. wide, 12 in. long and 2 in. deep. It contains 12 detailed and enlarged color drawings of these pests in the adult and larval stages. Three actual specimens of each pest are mounted on pins in the box. Insects shown include the rice weevil, granary weevil, lesser grain borer, the ca-

delle, saw-toothed grain beetle, angoumois grain moth, Indian meal moth, flat grain beetle, confused flour beetle, yellow meal worm, black carpet beetle and the cereal mite. Because of the small size of the mite, actual specimens are not included. It is adaptable for display in elevators and farm stores where fumigants are sold and for educational purposes in schools and industrial plants. To secure price and other information please check No. 6254 on the coupon and mail it.

#### No. 5164—Bag Opening Device

The Hudson Pulp & Paper Corp. has announced a new multiwall bag feature, called by the trade name, "Snap-Open Sack." "Bag users will be able to open multiwalls with a quick snap of the wrist," a company spokesman said. The quick-opening device, on which a patent has been applied for, is achieved by placing a series of small perforations in one corner of the bag under the tape and near the sewing line. By grasping the tape at this corner and pulling sharply upward, an opening is instantly started. It can be stopped and held at any point convenient



for controlled spout pouring. The bag is available in both open-mouth and valve types. Check No. 5164 on the coupon, clip and mail it to secure more complete details.

#### No. 5138—Pump

Maintaining a constant volume of flow despite fluctuations in water pressure is the function of a new variable cavity pump built by Hypro Engineering, Inc. When the pressure in the pump reaches a predetermined point, a spring loaded end plate moves outward, increasing the length of the pump cavity and enlarging the clearances between the ends of the rotor and the end plate varying the pressure. To secure more complete details about this pump check No. 5138 on the coupon and mail it.

### Also Available

The following items have appeared in the What's New section of recent issues of Crop-life. They are reprinted here to help keep retail dealers on rotational circulation informed of new industry products, literature and services.

#### No. 5163—Gross Bagger

A new two-color data sheet, offered by the Richardson Scale Co., describes and illustrates the company's manually-operated gross bagger. Equipped with an automatic cut-off device, this recently-developed bagger scale fills and weighs either textile or multi-wall paper bags in capacities of 50 to 140 lb. To secure a copy of the data sheet check No. 5163 on the coupon and drop it in the mail.

#### No. 5175—Fly Control Products

The special products division Mutual Products Co. has announced a new line of fly control chemicals. All products in the line carry the name of SK Surekill Brand. They are available in one, five and 53-gal. metal containers with tamper-proof pouring spouts. The 55% Malathion concentrate is available in pint bottles. For those who prefer to use Malathion in a granular form, five, 10 and 25-lb. moisture-proof packages are available. National distribution planned. Secure more complete details by checking No. 5175 on the coupon and mailing it to this new paper.

#### No. 6236—Soil Cover

A new type vinyl plastic soil cover under the name of Larvacovers, for use in chemical and steam sterilization, is announced by Larvacide Products, Inc. The "life expectancy" of this new type cover is claimed to be increased significantly by a floor green tint coloring which increases resistance to deterioration from sunlight. Heavy duty, 8-gauge plastic film is used. The cover is manufactured specifically for use in chemical and steam soil treatment. However, they may be used also in irrigation ditch lining, water conservation, erosion prevention and in temporary greenhouse construction. More information is available without charge. Check No. 6236 on the coupon and mail it.

#### No. 6251—Row Planter Attachment

The E. S. Gandrud Co., Inc., announces that its new row planter attachment eliminates mixing of insecticides with fertilizer and applies dry granular insecticides during planting. The attachment mounts on either 2- or 4-row planters. Design



to mount between seed cans, the unit delivers metered quantities of granular chemicals to the fertilizer boots through flexible metal tubes. Adapters connect insecticides and fertilizer tubes. A split sprocket clamps to the fertilizer drive shaft to drive the chemical applicator. A gauge on the chemical hopper allows setting various application rates. Secure more complete details by checking No. 6251 on the coupon and dropping it in the mail.

#### No. 5182—Grain Protectant

A new liquid grain protectant claimed to be the first product of its kind for the prolonged protection of stored grain from insects, has been introduced by the Douglas Chemical Co. Called Tetrakote, the protectant is being placed on the market after several years of cooperative research with the entomology department of Kansas State College. Tetrakote is applied to the grain as it is harvested and is moved to farm storage. It is a residual spray which is said to protect the grain for periods of 12 months at a low cost. The formula consists of ethylene dichloride, petroleum distillate, pyrethrin butoxide and pyrethrins. The

Send me information on the items marked:

- |  |  |
|--|--|
| <input type="checkbox"/> No. 5138—Pump               | <input type="checkbox"/> No. 6243—Catalog                    |
| <input type="checkbox"/> No. 5096—Viscosity Chart    | <input type="checkbox"/> No. 6248—Anhydrous Folder           |
| <input type="checkbox"/> No. 5108—Lease Plan         | <input type="checkbox"/> No. 6249—Metering Device            |
| <input type="checkbox"/> No. 5163—Gross Bagger       | <input type="checkbox"/> No. 6250—Fungicide                  |
| <input type="checkbox"/> No. 5164—Bag Opening Device | <input type="checkbox"/> No. 6251—Planter Attachment         |
| <input type="checkbox"/> No. 5174—Bag Printing       | <input type="checkbox"/> No. 6252—NH <sub>3</sub> Applicator |
| <input type="checkbox"/> No. 5175—Fly Control        | <input type="checkbox"/> No. 6253—Herbicide                  |
| <input type="checkbox"/> No. 5182—Grain Protectant   | <input type="checkbox"/> No. 6254—Insect Display Box         |
| <input type="checkbox"/> No. 6236—Soil Cover         | <input type="checkbox"/> No. 6255—Chemical Booklet           |

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS  
PERMIT No. 2  
(Sec. 34.9,  
P. L. & R.)  
MINNEAPOLIS,  
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept.

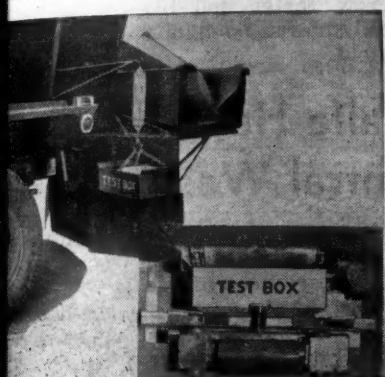
Minneapolis 1, Minn.



is being marketed to farmers and grain men through feed stores, elevators and other farm retail outlets. It is commercially applicable in terminal and country grain elevators, mills, seed houses, bean plants, rice and hominy mills. It may be used on grain, rice, beans, popcorn and garden and field seeds. For complete information regarding the sale or use of these products please check No. 6249 on the coupon and mail it.

## No. 6249—Metering Device

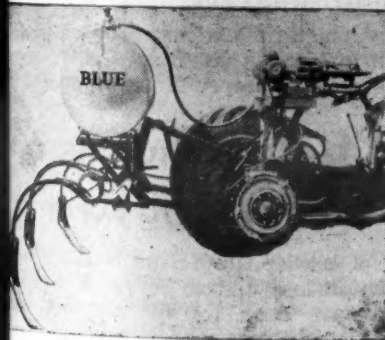
The Highway Equipment Company, Inc., is producing a new metering device for commercial fertilizer spreaders. The unit fits all late model "New Leader" agricultural spreaders made by the company. The device measures the amount of fertilizer being fed to the twin distributor discs



and provides a simple method of obtaining the correct feedgate setting. It is said to be easy to install and accurately meters from 100 lb. per acre on up. Full information and prices may be had—at no obligation—by checking No. 6249 on the coupon and mailing it to this newspaper.

## No. 6252—NH<sub>3</sub> Applicator

The John Blue Co. has recently announced the addition to its line of new series of tractor mounted anhydrous ammonia applicators for use with rear mounted tool bars. Tanks with capacity up to 100 gal. are mounted directly on the tool bar. The blue metering pump is mounted directly over the rear axle housing where it is accessible to the operator. The firm's line of applicators includes the spring time which is suitable for



side dressing and top dressing requirements and the more durable spring trip shank, which is suitable for tougher ground. Available for the first time is a line of rigid, truss frame type shanks for tough soil conditions where excessive deflection is a problem. These applicators will fit any size tool bar from 1 1/4 inch to 2 1/4 in. Tractor mountings are also available. To secure more complete information check No. 6252 on the coupon and mail it.

## No. 5174—Bag Printing

Samples of bag printing using the "texture" process as well as the half-tone method are available from the Fulton Bag & Cotton Mills. The company's texture process is known as

Full-Tone printing and is for use on multiwall paper bags. The reproduction of natural, lifelike pictures that result in more realism is claimed for the texture process. To secure samples of both methods of printing check No. 5174 on the coupon and mail it.

## No. 6253—Herbicide

Available in limited quantities is the new herbicide, Amino Triazole, produced by the American Cyanamid Company's agricultural chemicals division. A leaflet suggesting its use on Canada thistle, quack grass and other weeds is available. The company states that it has been granted acceptance of an "experimental label" which permits the firm to sell small quantities for testing purposes. To secure more complete details about securing a quantity of this herbicide, cost and available literature, check No. 6253 on the coupon and mail it to this newspaper.

## No. 5108—Lease Plan

Under a recently inaugurated lease plan, material handling equipment manufactured by Barrett-Cravens Co., may be leased for three years or five years to responsible companies. The plan is not primarily a tax-saving device, but all monthly payments that the customer makes are fully deductible for federal income tax purposes, a company announcement states. There is no option to buy the equipment either during or at the end of the lease. The lease does contain an option for the customer to extend the lease at the end of the three-year or five-year period. Available for lease are: hand lift trucks, electric lift trucks, pallet lift trucks, fork trucks, industrial tractors, skids, portable elevators and cranes, storage racks and material handling specialties. More information on the plan may be obtained by checking No. 5108 on the coupon and dropping it in the mail.

## No. 6248—Anhydrous Ammonia Folder

"Mathieson Anhydrous Ammonia" is the title of a four-page folder published by the Olin Mathieson Chemical Corp. which answers a number of questions farmers ask about nitrogen for direct application to the soil: What is anhydrous ammonia? What happens in the soil? When should it be applied? How much should be applied? Copies of the folder are available without charge by checking No. 6248 on the coupon and mailing it to this newspaper.

## No. 6243—Chemicals Catalog

A revised edition of the Antara Chemicals catalog is now available. Information on chemical composition, physical properties and application is given on established products and new chemicals released in the past few months. The catalog includes a listing of intermediates, as well as detergents, wetting agents, emulsifiers and other chemicals. For a copy of the new catalog, check No. 6243 on the coupon and drop it in the mail.

## No. 6250—Antibiotic Fungicide

New literature on Acti-dione, an antibiotic fungicide, has been prepared by its manufacturer, the Upjohn Co. Acti-dione ferrated is said to be an all-purpose product for controlling dollar spot, brown patch, melting-out and fading-out. The literature states that it "has not been found to kill bacteria when ap-

plied at recommended fungicidal strengths." Included in the literature are leaflets showing the control possible in the above four major bent grass diseases and the dosage schedule for the product. Information about the Upjohn product, Actispray, a fungicide for the treatment of cherry leaf spot on bearing cherry trees, is also available. Secure the literature by checking No. 6250 on the coupon and mailing it to this newspaper.

## No. 5096—Viscosity Chart

A viscosity conversion chart for quickly translating any viscosity measurement into seven other standard units has been reprinted for distribution by Nopco Chemical Co. The conversion nomograph was designed to minimize problems caused by lack of standardization in measurement methods of various industries. It is intended for rapid estimation rather than extreme accuracy. To obtain a copy of the chart check No. 5096 on the coupon and drop it in the mail.

### POTATO INSECT

FORT COLLINS — Colorado A&M entomologists are keeping a wary eye on the development of adult psyllids in the northeastern section of the state. Adults of this insect, which primarily is a pest of potatoes, have appeared in large numbers in the Fort Collins area. Dr. L. B. Daniels, chief entomologist for the Colorado A&M Experiment Station and chairman of the Colorado Insect Detection Committee, reports conditions are good for the insect to multiply. Weather conditions have spurred growth of the host plants on which the adult psyllids live.

## CREDIT

(Continued from page 9)

to delinquents. It doesn't work that way with me. I tried it a few times and my customers got peeved at me. One reason is that they fear neighbors may be listening in on the conversation, and they do not want to be exposed or embarrassed. Or they may have neighbors in the house when you phone them.

"I have switched to the personal visit for most collections and this works fine. It takes more time, but the results are better. When you talk to a farmer face to face, you seldom have to leave without a payment or a definite commitment to pay."

Another way the dealer can protect himself from extending too much credit is to join a credit bureau which operates in his area. Through such a membership he can obtain credit information on his accounts. Also when a farmer applies for credit, the dealer can say that he will give it to him just as soon as the credit bureau makes the necessary recommendation. This will scare the no-pays off, for they know the credit bureau will not give a favorable report on them.

Because credit problems can sometimes become very vexing, it is a good idea for every dealer to try to set up a definite credit policy and advertise its terms consistently, so that all customers know what it is. This is perhaps the smallest step a dealer can take to show his customers that the extending of credit from this store or mill carries definite limitations.

It is your money. You must protect it or no one else will.



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**Larvacide** (99% pure chlorpicrin). Controls most disease-causing fungi, weed seeds, nematodes and soil insects. Recommended for use in greenhouses, cold frames, seed beds, flats, compost and potting soils.

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**Larvacide** (99% pure chlorpicrin). Destroys insects and rodents in flour, feed and rice mills, grain elevators, seed warehouses, vaults and on farms. Its tear gas warning makes LARVACIDE a safer fumigant.

**METHYL BROMIDE** — A standard fumigant for many purposes.

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**MILDEX**—A fungicide for eradicating powdery mildew of apples, cucurbits, roses and other crop plants.

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**LARVACOVERS**—8 gauge, extra sturdy vinyl covers to retain gas in fumigating soils, grain, etc. Florist green or clear.

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## TRADE WINDS

News That Charts Selling  
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### Laws Affecting Industry Signed In California

SACRAMENTO—Several new state laws affecting the agricultural chemical industry have been signed by Goodwin J. Knight, California governor.

One measure, by Sen. F. Presley Abshire, will require county agricultural commissioners in California to give notice and an opportunity for hearing before adopting, amending or rejecting regulations concerning agricultural pest control.

The law, effective Sept. 8, 1955, provides for a normal effective date for such regulations 30 days after approval by the director of agriculture. If of an emergency character, the effective date would be concurrent with approval by the director of agriculture.

Another new law revises the maximum quantities of deleterious ingredients permitted on agricultural produce. The new standards, effective Sept. 8, 1955, are as follows:

Fluorine, seven parts per million instead of 0.049 grains per pound; arsenic trioxide, 3.5 parts per million instead of 0.025 grains per pound; lead, 7 parts per million instead of 0.050 grains per pound; DDT, 7 parts per million instead of 0.049 grains per pound.

The bill also deletes a limitation that the maximum quantities or tolerances in excess of statutory limits established by the state director of agriculture may not exceed amounts specified by a federal agency.

It authorizes the director of agriculture to establish a maximum quantity or tolerance for other deleterious ingredients present on produce in quantities greater than the maximum amount or tolerance so established.

Also signed is a bill by Assemblyman Gordon Fleury of Sacramento, exempting from motor vehicle registration rigs used for spraying, airplane spraying or seeding. The law becomes effective Sept. 8, 1955.

### Shell Introduces New Nematode Fumigant

SAN FRANCISCO—The Shell Chemical Co. has introduced a new fumigant for control of the tiny parasitic worms, nematodes. Known as nemagon, the chemical, according to Shell, will be available in limited quantities for commercial use this year, probably in California and Florida. Nemagon is prepared in both liquid and dry forms.

### ENTOMOLOGY HANDBOOK

CORVALLIS, ORE.—A handbook for 4-H club entomology leaders has been published by the Oregon State College Extension Service. The booklet was prepared by Vincent Roth and Robert Every, entomologists. It includes general suggestions to parents, club officers and leaders along with basic information on equipment, displays, mounted specimens, insect survey and insect control, collecting and exhibits.

### Washington Firm Adopts Fumigation Safety Program

WATERVILLE, WASH.—A safety procedure designed to prevent accidental injury to workers in fumigating grain bins, has been adopted by the Waterville Union Grain Co. here. This new routine was instituted following a fatal accident earlier this year when an employee tripped and dislodged his gas mask while applying a mixture of 80% carbon tetrachloride and 20% carbon bisulfide to fumigate a 65,000 bu. flat bin.

The victim, Charles Bourton, apparently tripped while working down the slope of the grain and the fall dislodged his mask. At the time, he was operating in an area of heavy concentration, and his helper could not reach him in time.

Frank Schreck, assistant manager of the firm has outlined a new safety plan which operates as follows:

1. Have three men each with mask on the job.
2. Never allow man with spray hose to work out of sight of second man with a mask.
3. If spray operator has to work in a depression in the bin or in a place difficult to get out of quickly, secure a rope to the spray man back to the second man.
4. Gas mask canisters should be discarded after each application (200-300 gal. of fumigant per application).
5. Have men rotate and not apply more than 50 gal. per man.

### Chemical Brush Control Profitable On Texas Ranges

SAN ANGELO, TEXAS—Brush control by chemical poisons has spread to almost every part of Texas during the last five years. With worthless shrubs and trees steadily spreading across the ranges to take up the scant moisture, even deferred grazing has not been enough to halt the invasion.

Several ranchers throughout West Texas, however, have used the two in combination to partially bring their pastures back to profitable use.

Foster Rust, San Angelo ranchman, sprayed part of his ranch in 1950 to obtain a high percentage of top kill and over 50% root kill of mesquite trees. And in spite of a severe drought every year since then, he has more grass than before the spraying was done.

Down in Southwest Texas, the Benavides Ranch became infested with brush shortly after World War I, and finally became so choked with worthless shrubs that the grass had virtually disappeared. Mr. Benavides then began a systematic spraying job on his pastures, trying to cover a portion of the ranch each year.

He now figures he has 400% more grass than when the aerial spraying was begun.

He has cut his supplemental feeding bill from \$10,000 to \$300 per year and increased the stocking rate from 80 to 120 head of cattle per square mile.

### Timely Thrip Control Benefits Arizona Cotton, USDA Entomologists Report

WASHINGTON—Early season (usually beginning in May) insecticidal control of thrips in Arizona cotton boosted production 25%, report U.S. Department of Agriculture entomologists. Such insect control—and the resultant earlier maturity of cotton—could also in some years save crops from unseasonably early frost.

Tests conducted in 1954 on irrigated cotton at four widely separated areas—in Yuma, Maricopa, Pinal and Pima counties—resulted in yield increases from 526 to 1,215 lb. per acre.

Altitudes of test areas ranged from 142 to 2,800 ft. above sea level. Toxaphene at the rate of one pound of technical material per acre at each application was used in last year's

experiments, but previous tests had shown DDT, dieldrin and heptachlor to be equally effective against thrips.

Based on their experience, entomologists of USDA's Agricultural Research Service recommend that in Arizona the first insecticide treatment be made when cotton plants are in the early true-leaf stage, to be followed at weekly intervals by a second and perhaps a third treatment. Most other cotton states are already following similar early-season insect-control practices.

The 1954 tests disprove the long held belief that in Arizona, at least, thrip damage to cotton is unimportant. However, in similar experiments in California, cotton responded to treatment as did Arizona cotton, grew faster and bloomed earlier—but showed no significant increase in yield.

### Phosphate Boosts Alfalfa Hay Yields in Irrigated Areas of Central Washington

WASHINGTON—Fertilizing to keep the phosphate ( $P_2O_5$ ) content in alfalfa hay above 0.5% is the key to higher alfalfa hay production in the irrigated regions of central Washington, according to a U.S. Department of Agriculture agronomist.

C. E. Nelson of USDA's Agricultural Research Service, reporting on tests carried out cooperatively with the Washington Agricultural

Experiment Station, says that in the Yakima Valley, where phosphate content of alfalfa was below this level, annual fertilization boosted production of hay as much as 1.6 tons per acre.

In general, yearly applications of 64 lb. available phosphate per acre gave good yield increases, but a treatment rate of 150 lb. was required to raise the phosphate percentage in plants from 0.28 to 0.50.

### \$16,000 Worth of Fertilizer Used in Trial to See If Rotation Needed for Corn

MANCHESTER, IOWA—In an effort to determine whether crop rotation is necessary on Iowa farm land if proper fertilizing methods are employed, an experiment is under way on a 400-acre seed corn farm east of Manchester. The tract was purchased some time ago by Elmer Baer, who operates other farms in Illinois where he grows seed corn for Steckley's hybrid.

In preparing the acreage near here for cultivation Mr. Baer purchased, mainly from Manchester dealers, \$16,000 worth of fertilizer, which is believed to establish a new Iowa record for a farm of this size,

according to Robert E. Hall, extension agent for Delaware County.

Should Mr. Baer succeed by his experiment in showing farmers that corn can be successfully grown year after year on the same ground, it might have the result of greatly increasing the cash crop acreage in Iowa, which has long been the principal corn growing state in the union.

In any event, it is Mr. Baer's intention to plant corn on the same 400-acre operation again next year by which time he may have succeeded in proving that it can be accomplished by proper fertilizing methods.

### Wise Use of Fertilizer Helps Michigan Potato Grower Win State Farming Award

LANSING, MICH.—Alvin H. Hansen, outstanding Michigan potato grower at Stanton, Mich., and winner of the "Outstanding Young Farmer of Michigan Award," is an extensive user of fertilizers and sprays. And proof of his success on his 620-acre farm is his 1954 record for the second highest average yield of potatoes in Michigan—915 bu. per acre with Chippewas grown from foundation seed.

Mr. Hansen won the Montcalm County title and then won over 22 other nominees in the state contest sponsored by the Michigan Junior Chamber of Commerce. The state awards banquet was held at Lansing.

Mr. Hansen purchased 560 acres in 1946 with down payment of only \$3,000. Owner now of 640 acres with much new equipment and a new home, the Hansens are debt free.

The following brief account of some of his 1954 farm practices reveals his endorsement of a good fertilizer plan. Rye was used by Mr. Hansen to con-

trol erosion, to prevent fertilizer and water loss and to serve as a green manure crop for his potatoes and pickles. Nitrogen fertilizer was top-dressed on the rye green manure crop early in the spring and also was used on all his wheat ground. The potato crop was planted on the furrow with about 1,500 lb. of complete fertilizer being used at the planting time. Nitrogen was applied again by Mr. Hansen to the potato crop when the tops were about 6 in. high. He sprayed his crop 12 times with a fungicide and DDT.

Many other progressive farming methods—irrigation, modern potato handling equipment, etc.—all helped Mr. Hansen earn his high honors.

Mr. Hansen received an expense paid trip to the national Young Farmer banquet in Minneapolis, June 1-3, when the top national winners were named. This nation-wide project is co-sponsored by the U.S. Junior Chamber of Commerce and the American Petroleum Institute.



Fertilized produce can produce more cash income than unfertilized land, according to a report from the University of California.

In one of several demonstrations in California, a Mateo County farmer gained \$42.50 per acre in the first year of fertilization. The weight gain per acre was 295.4 pounds.

Gains recorded in demonstrations from egg to 0-0 fertilizer were 84 lb. beef per acre in Tehama County and 176.5 lb. in Monterey County. In San Luis Obispo County, the gain per acre followed a 16-20-0.

Colorado farmers who are puzzled by plant diseases of alfalfa and other crops, should consult W. J. Grimes, plant pathologist at the University of Colorado, for diagnosis and recommendations. A letter addressed to him should include a history of the disease and the extent of the damage. He will send up identification material.

Results of a trial at the University of California at Davis show that tansy must be controlled in alfalfa. The trial showed that a 2-4-4 fertilizer rate of 1/4 lb. per acre was \$1.07 per acre. A 72¢ per acre rate was also conducted. The trial was conducted by the University of California at Davis.

Sorghum production equals increased income, according to a report from the University of California. This is because sorghum is naturally resistant to the increase in cropping one crop per year. Sorghum is available in California.

Wyoming farmers should use a good fertilizer plan to control weeds.





## FARM SERVICE DATA

## Extension Station Reports

Fertilized pasture and rangeland can produce more than twice the net cash income from beef and other meat animals than is produced on unfertilized land, according to the California Fertilizer Assn.

In one of several range fertilizer demonstrations, still in progress in California, a fertilized field in San Mateo County produced a net cash gain of \$42.56 per acre during the first year of fertilization with 400 lb. per acre of 16-20-0. The net weight gain per acre from this field was 295.4 pounds.

Gains recorded on other fertilizer demonstrations during the same period from equal applications of 16-20-0 fertilizer were Placer County, 84 lb. beef gained per acre and Tehama County, 115.4 lb. lamb gained per acre. Other results were Monterey County, with 345 lb. 16-20-0, 176.5 lb. beef gained per acre; San Luis Obispo, 111.2 lb. beef gained per acre following application of 300 lb. 16-20-0.

Colorado farmers and ranchers who are puzzled about unidentified plant diseases can get help from the plant disease clinic at Colorado A&M College. W. J. Henderson, extension plant pathologist, says the clinic will diagnose plant diseases and give recommendations for their control. A letter accompanying the plant material should include a complete history of the field and crop rotation, extent of the disease, control methods which may have been used and any other information which will speed up identification.

Results of two years' testing in Bernalillo County, New Mexico, show that tansy mustard in alfalfa can be easily controlled by the chemicals MCP and 2,4-D. According to Curtis Grimes, Bernalillo County extension agent, these weed killers have made 85 to 95% kills of tansy mustard at the Valley Gold Dairies farm near Albuquerque.

Both chemicals were applied at the rate of 1/4 lb. per acre. Cost of material was \$1.07 an acre for MCP and only 72¢ an acre for 2,4-D. The tests were conducted by the Department of Agricultural Services at New Mexico A&M College.

The weed killers were applied in the early spring when the tansy mustard plants were at their largest stage and the alfalfa was just beginning to grow. Test plots were sprayed with conventional equipment, which applied 13 to 15 gallons of solution per acre. The quality of alfalfa hay from the Valley Gold Dairies farm has been improved greatly by the absence of tansy mustard, says George Honea, manager of the farm.

Sorghum plus nitrogen fertilizer equals increased yields says Lyman Amburgey, extension soils specialist at the University of Arizona. This is because our Arizona soils are naturally low in nitrogen. Also, the increased practice of double cropping one field in a single year allows available nitrogen in the soil.

Wyoming farmers' old problem of grassy weeds in sugar beets may be

had shown above ground. The chemical killed half the grassy weeds, stunted the other half permanently, and killed a third of the broadleaved weeds.

The stunted weeds were too damaged to ever bother the beet plants. Dalapon did not reduce the beet yield. Used before weeds appear above ground, Dalapon and another new spray, DCU, "effectively controlled grassy weeds," Mr. Bohmont says.

★

Oregon strawberry growers are in position to deliver a long-needed jolt to one of their most persistent enemies, the strawberry aphid that spreads yield-reducing virus diseases, according to Oregon State College entomologists. They say properly timed dusting with some of the newer insecticides will control aphids

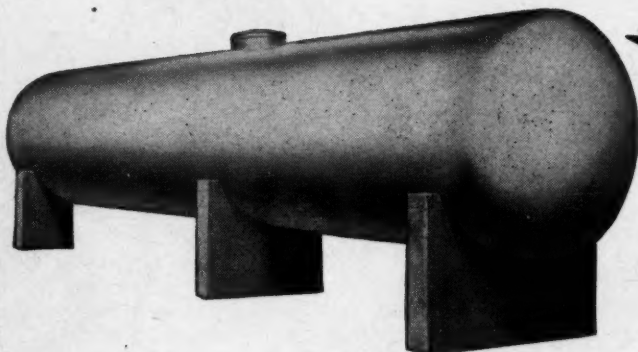
that have backed many Oregon growers against the wall in competition for national strawberry markets.

Insecticide dusts that have proven effective in OSC trials are parathion, malathion and lindane applied during mid-May and June and again in September and early October when winged aphids are found in greatest numbers. Dusting of new plantings is recommended at two-week intervals until the middle of July.

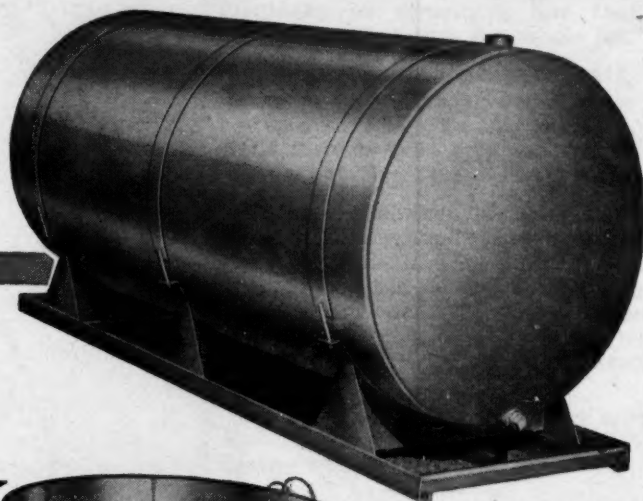
Radioactive tracers help forest entomologists learn the habits and flight range of Engelmann spruce beetles. By learning their habits through research, control measures can be planned to save millions of spruce trees from their vicious attack. This is just one of the research highlights from the 1954 annual report of the Rocky Mountain Forest and Range Experiment Station with headquarters in Fort Collins, Colo.

For farm storage...

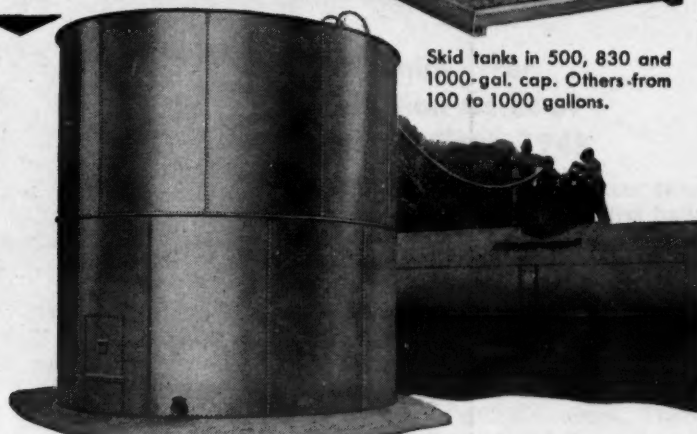
For bulk storage....



Welded low-pressure tank for bulk storage. In 12,000 and 22,000-gallon capacities.



Skid tanks in 500, 830 and 1000-gal. cap. Others from 100 to 1000 gallons.



Bolted 22,000-gallon non-pressure tank for bulk storage.

## Profit with BUTLER aluminum tanks for liquid nitrogen solutions

Cash in on the amazing upsurge in use of liquid nitrogen fertilizers. Butler now offers you two new types of special alloy non-corrosive aluminum bulk storage tanks for liquid nitrogen solutions.

One is a bolted vertical 22,000-gallon tank for non-pressure solutions. The welded tank—in 12,000 and 22,000-gallon capacities—is a horizontal bulk storage tank for low-pressure solutions, available to code specifications.

Smaller size horizontal aluminum tanks in 100, 270, 500, 830 and 1000-gallon capacities are also available. The 500, 830 and 1000-gallon tanks can be equipped with skids for on-farm storage or transporting solutions from bulk station to farm.

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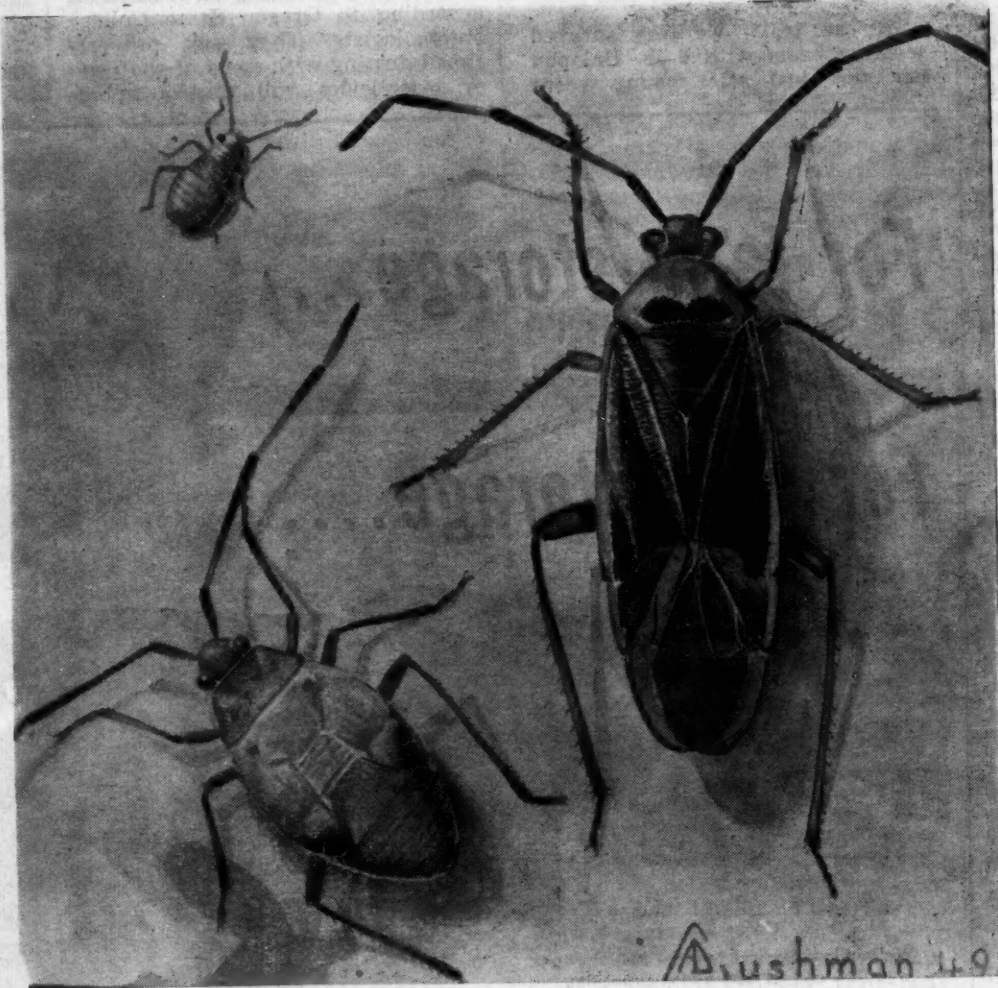
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City  Zone  State



# BUG OF THE WEEK

Mr. Dealer--Cut out this page for your bulletin board



## Rapid Plant Bug

### How to Identify

The adult rapid plant bug is small, being only about a third of an inch long. Its color is dark brown and the insect is characterized by a narrow yellow band along the sides of the body. In its early stages, the bug is light green with reddish markings.

### Habits of Rapid Plant Bug

Eggs laid by the adult female are found usually imbedded in the stems of plants and the winter months are passed while the insect is in the egg stage. Several generations of rapid plant bug come into being each year.

### Damage Done by Rapid Plant Bug

Equipped with piercing-sucking mouth parts,

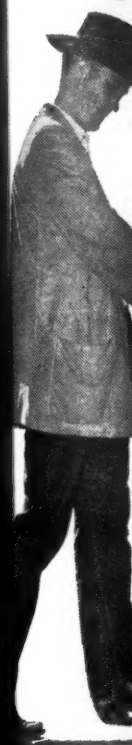
the rapid plant bug injures cotton by piercing squares and young bolls. The greatest loss is through destruction of young squares, producing injury similar to that characteristic of the cotton fleahopper. Some damage occurs through piercing the terminal buds, leaves and stems of the plants, resulting in malformations. Its damage is similar to that caused not only by the cotton fleahopper, but also the tarnished plant bug and other bugs of the lygus family.

### Control of the Rapid Plant Bug

Toxaphene as a spray or dust has proved effective in control of the rapid plant bug (*Adelphocoris rapidus* (Say)). Dusting or spraying with DDT has also been used with success in control of the pest.

Illustration of rapid plant bug furnished Croplife through courtesy of Hercules Powder Co., Wilmington, Del.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.



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New, effective control around the house, out buildings, barge districts, restaurants.

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Effective bait lure die.

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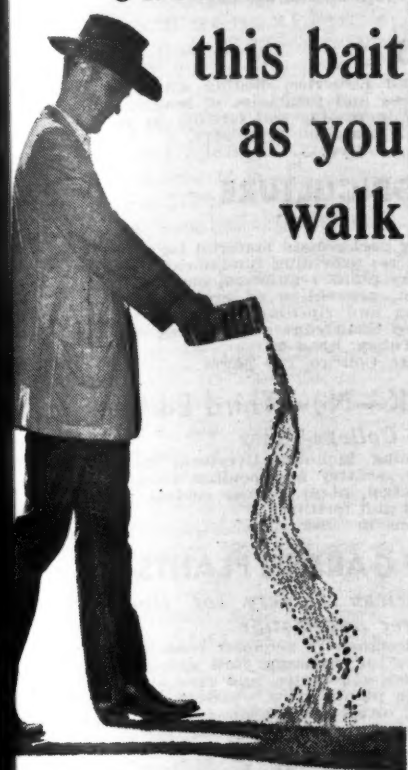
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Just scatter  
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house flies.**

New, easiest way ever to control house flies in and around barns, poultry sheds, out buildings, stables, garbage disposal areas, drive-in restaurants.

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Fast! You can bait several hundred square feet in 2 or 3 minutes.

Effective! This attractive-type bait lures flies, they feed and die.

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ORTHO Fly Spray is an ideal space spray which gives quick kill on contact and provides excellent control of the lesser house fly.

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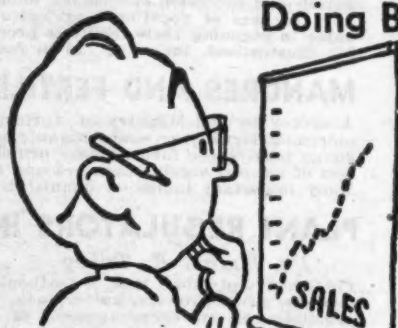
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## Oscar & Pat



Oscar Schoenfeld, the frugal end of the Schoenfeld & McGillicuddy farm supplies partnership, sat frowning at his desk, his checkbook spread in front of him. Always one to watch financial matters, Oscar had discovered that it was the 11th of the month, and the checkbook balance was alarmingly low. That could mean only one thing—delinquent accounts.

"Tillie," he said to the plumpish, ulcer inclined bookkeeper, "Have you got a list of delinquent accounts?"

She nodded, reached into a drawer and brought forth a duplicate list. "None of these have paid yet," she offered.

"Hmn, hmn, hmn!" said Oscar severely, with his voice filled with criticism. "Just what I thought. Pat has failed to make his collections as usual. And now he's running off to a convention in Iowa and won't be home until after Saturday. Payday's Saturday, too."

"Oh, perhaps some of the old accounts will pay by Saturday," Tillie suggested. "We always seem to get the money in somehow."

"We can't just sit here and wait for it," snapped Oscar. "It should be collected. Ach, that Pat. If only I could be in business for myself. Then I would live longer."

He stomped back to his desk and studied the list gloomily. The fingers of one hand drummed restlessly on the clean desk top. Ann Hydrous, the grey cat, sleeping on top of the file on Pat's side of the office, recognized the danger in that tapping of Oscar's fingers.

She leaped down to the floor and glided quickly out into the salesroom. Her feline intuition told her that when Pat was around she was safe—but when Oscar was alone and worrying or something, it was a horse of a different color.

Finally Oscar slapped his hand down so hard on his desk that his bulldog plastic receptacle full of paper clips rattled, and so did the glass jar of rubber bands. "Somebody's got to get out and collect! And it might as well be me."

Tillie looked up awfully surprised. "B—but Mr. Schoenfeld," she said. "Y—you've never collected before."

"There's always a first time!" Oscar exploded. "And where money is concerned—my money—I can get tough. We are not going to have to go to the bank to borrow money at 5% for payday when a bunch of lazy farmers can dig deep and pay us what they owe."

"Oh, my, oh my," said Tillie nervously. Knowing Oscar's temper and determination, she could envision some very tough scenes with customers who could not pay. She knew that Pat would not like to have Oscar collecting in his way, but she saw no way to stop him.

In fact, Oscar's mental steam was at boiling point as he slapped an old battered straw hat on his head, shoved four sharp pencils in his sports shirt pocket, grabbed a receipt pad and the long fluttering delinquent customer list and got into the light truck.

"Oh, goodness," sighed Tillie. "I wish I could stop him." She put her head down on the desk and sobbed.

"Oh, I can't stand this fighting and bickering much longer. Oh, Dave, oh Dave, why don't you ask me to marry you, so I can get out of here? I—I can't wait forever." She referred, of course to her seven year long courtship with bashful Dave Williams, assistant manager of the coal yard.

The first farm that Oscar stopped at was that belonging to Ike Grimm. Ike happened to be in the kitchen for his mid morning cup of coffee, when he spotted Oscar getting out of the car. "Ma, there's Oscar Schoenfeld, and he's mad as all heck. Bet he's coming here to try to get some money. I told Pat I wouldn't pay until after I got my milk check about the 20th. I'll hike out the back door, and let him try to find me."

Oscar knocked, and when Mrs. Grimm answered, he said, "Is Ike home?"

"I think he's out around the buildings somewhere—or in the field," Mrs. Grimm replied truthfully.

Waving the delinquent customer list in one hand, Oscar went forth determinedly, visited every farm building and looked over the fields. But he could not see Ike Grimm, who was hiding in the granary, almost laughing his sides out.

Finally Oscar went back to the light truck, wiped the cow manure off his feet on the green grass, got into the truck and drove off. Darned if he would waste a whole morning looking for Grimm.

At the farm of Pete Hawley, Oscar got out of his truck and accosted a hired hand doing chores in the dairy barn. "Is that Pete out in that south field cultivating corn?"

The hired hand looked at Oscar's irate face, at the long delinquent customer list clutched in his hand, and put two and two together.

"No," he lied. "That's Mike Evans, a new hand. Guess Hawley's over helping Ed Swift today with his hay." Swift, as Oscar knew, lived eight miles west.

And so it went from farm to farm. Oscar didn't find many farmers home, because his approach warned many of them. They knew he came but for one purpose—to collect money. It was utterly foreign to his nature to chat with farmers, to inspect and praise crops, cattle and poultry, and pass out a bit of advice here and there on how a farmer could make more money. Oscar's one standard question, ever ready on his blunt tongue, was "How about paying this bill? We need money."

It was about four o'clock in the afternoon when a dusty and weary Oscar drove up to the farm supplies store and got slowly out of the truck.

He wobbled into the salesroom and sat down in his office chair, still clutching the delinquent customer list.

"Only \$27.50 for a whole day's collecting!" he said hoarsely. "No wonder farmers can't make enough money to pay! They are never home! Out gallivanting around helping neighbors or something like that. We—we oughta sue the whole lot."

"Four checks, totalling \$375, came in the afternoon mail," Tillie offered weakly. "It's only the 11th. The farmers who paid must have made out the checks last night."

Oscar gaped, then his lips settled in a grim line again. "That's too late," he said. "I'll have to talk it over with Pat. Those fellows have to pay by the 10th or we'll charge them interest and stick to it. We can't let them get by with that slow pay stuff any longer."

To which Tillie just closed her eyes and murmured wordlessly, "Oh, Dave—when?"

### Idaho Gains Over Half Million Acres of Cropland Since 1948

MOSCOW, IDAHO — More than half a million acres of new land have been brought into production in Idaho since 1948, according to a survey by the Agricultural Stabilization and Conservation committee.

The total of 525,341 acres includes 49,237 acres in department of reclamation projects. Private irrigated land comes to 262,850 acres. There was an addition of 213,254 acres of dry land.

The year of greatest land expansion during the period was 1951 when 91,430 acres were brought into farming and ranching. That year 10,000 acres were brought in by reclamation projects.

Since the 1949 report, irrigated crop land has increased by 230,000 acres, bringing the total Idaho area in such farming to 2,369,000 acres.

### NEW CALIFORNIA FIRM

MODESTO, CAL.—The Shore Cal-unite Co. was formed recently at 1230 Seventh St. in Modesto to act as distributor in this San Joaquin Valley area and in Stanislaus County for Calunite fertilizer products. Solomon Shore, new to the agricultural chemical industry is owner of the firm which specializes in Calunite, but may add other farm chemicals in the future.

### CLUB AIMS AT 200 BU. CORN YIELD

FORT MORGAN, COLO.—"Crib-busting" corn yields are the aim of the contest among Morgan County (Colorado) corn growers. George Hamilton, county agent, reports that a "200 Bushel Corn Club" is being organized in the county. The contest, open to all farm operators and land owners in the county, will recognize the top corn grower in the county each year. Mr. Hamilton says the official high yield in Morgan County is 173 bu. in 1949, but several growers have reported yields approaching 200 bu. Purposes of the contest, according to Mr. Hamilton, are to point out the best cultural methods of corn production, to increase county yields and to encourage balanced farming. The contest is being sponsored by seed and fertilizer dealers, the Burlington Railroad and the Fort Morgan and Brush Chambers of Commerce in cooperation with the Morgan County Extension Office.



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A comprehensive study of nutrient-deficiency symptoms in crops compiled by 19 of the leading authorities in the field. It is being widely used by college professors, research and extension specialists, industrial chemists and agronomists, county agents, and teachers of vocational agriculture. Many farmers have found it of particular value in planning their fertilizer programs. Cloth bound, 390 pages, 242 illustrations, including 124 in full color. \$4.50

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Dr. E. R. de Ong

The information is grouped according to field of application rather than to chemical composition or nomenclature. Chapters on insecticide label, seed disinfectants, herbicides, forest insects and diseases, livestock insects, and the pests found in household and industry. Fumigation of warehouses, residual sprays and preservatives for fruits, vegetables and wood products are covered. An up-to-date guide on pest control with the needs of operators, agricultural and structural specialists carefully considered. Shippers and warehouse personnel will find the book useful. \$10.00

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Harold H. Shepard, Entomologist, U.S. Department of Agriculture, formerly Associate Professor of Insect Toxicology, Cornell University.

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## Speaking Program, Field Trips Set for Pacific Northwest Fertilizer Conference

BOISE—A speaking program featuring a wide variety of topics, along with two field trips, has been scheduled for the sixth annual Pacific Northwest Fertilizer Conference, to be held June 27-30 at Boise Hotel.

The meeting is sponsored by the Pacific Northwest Plant Food Assn. Among the speakers is K. D. Jacob, head of the Fertilizer & Lime Section, U.S. Department of Agriculture, Beltsville, Md.

Field trips are scheduled during the afternoons of June 28 and June 29. The first will be to the experiment stations at Parma, Idaho and Ontario, Ore. and to Amalgamated Sugar Co. for observation of fertilizer field trials. The June 29 trip will be to the experiment station at Caldwell, Idaho and the Wayne Waugh farm for observation of fertilizer tests and demonstrations on aerial and injection applications of fertilizer.

Session chairmen will be Jack Wursten, Simplot Soilbuilders, Idaho Falls, Idaho, the morning of June 28; Charles G. Painter, University of Idaho, morning of June 29; H. B. Cheney, head, Department of Soils, Oregon State College, morning of June 30, and F. T. Tremblay, Washington Cooperative, Seattle, afternoon of June 30.

Speakers and their topics are:

### Morning of June 28

Welcome, Carol Youngstrom, associate director, Extension Service, University of Idaho, Jack Simplot, J. L. Simplot Co., Boise, Idaho; "Soil Moisture—Fertilizer Relationships as They Affect the Yield and Quality of Sugar Beets," Jay L. Haddock, U.S. Department of Agriculture, Logan, Utah; "Fertilization of Sugar Beets in Boise Valley," Ted Gessel, Amalgamated Sugar Co., Nampa, Idaho; "Fertilizer Studies on Russet Burbank Potatoes," Lee I. Painter, University of Idaho, Aberdeen, Idaho; Review of Fertilizer Situation on Southern Idaho's Drylands," Francis H. Siddoway, USDA, Teton, Idaho; "Wheat Fertilization in the Pacific Northwest," G. O. Baker, University of Idaho, Moscow.

### Morning of June 29

"A Dairy Farmer Looks at the Soil Fertility Program," David G. Tate, Triangle Dairy, Boise, Idaho; "Fertilizer's Place in the Production of Irrigated Pastures," George Cleveland, Caldwell Branch Experiment Station; "Soil Fertility Research on Alfalfa Production in Northern Idaho," Tom Brackney, Branch Experiment Station, Sandpoint, Idaho; "Soil Fertility Research on Forages in the Columbia Basin," C. E. Nelson, Irrigation Experiment Station, Prosser, Wash.; "Fertilizer Application by Airplane," Harold Hansen, Farwest General Agency, Seattle; "Soil Fertility Research in Mountain Meadows," Forrest M. Willhite, USDA, Grand Junction, Colo.; "Soil Fertility Concepts Pass in Review," Roger H. Gray, University of Illinois.

### Morning of June 30

"Liquid Fertilizers," K. D. Jacob, USDA, Beltsville, Md.; "Correlation of Soil Tests With Yield Response in Oregon," L. A. Alban, Oregon State College; "Correlation of Soil Test Results With Yield Response in Washington," H. M. Reisenauer, State College of Washington; "Some Soil Testing Results on Idaho Soils," Glenn C. Lewis, University of Idaho; "Relationships of Sodium Bicarbonate and CO<sub>2</sub> Soluble Phosphorus and Potassium in Soil With Total Content in Plant," James P. Thorne, Utah State Agricultural College, Logan, Utah; "Studies on Correlation of Soil Tests With Yield Response," Bion Tolman, Utah-Idaho Sugar Co., Salt Lake City; "Cor-

relation of Soil Test Results With Yield Response and Phosphate Uptake," Sterling R. Olsen, USDA, Fort Collins, Colo.

### Afternoon of June 30

"Leaf Sampling Techniques For Various Western Washington Crops," Harry A. Kittams, Jr., Western Washington Experiment Station, Puyallup, Wash.; "Correlation Between The Soil and Leaf Levels of Potassium," F. S. Fulmer, American Potash Institute, Newport Beach, Cal.; "Plant Analysis for Nutrient Surveys," Nels R. Benson, Tree Fruit Experiment Station, Wenatchee, Wash.

The banquet will be held the evening of June 28 with B. R. Bertamson, chairman of the Agronomy Department, State College of Washington, as master of ceremonies. It will be preceded by a cocktail hour. A barbeque will be held the evening of June 29.

A noon luncheon is scheduled June 28, with Ralph Nyblad as master of ceremonies. A speaker, to be announced, will discuss "Isotopes and Agriculture."

B. G. Wood, head of the Department of Agricultural Economics, Oregon State College, will discuss "Fertilizer, Agriculture and Economics" at the June 29 noon luncheon. Karl Bauer is master of ceremonies.

A film on aerial application is scheduled for the morning of June 28. Registration will start at 3 p.m. June 27.

## Conservation Payment Ban Repealed

WASHINGTON — The President signed a bill recently repealing the ban on agricultural conservation payments to farmers who fail to comply with acreage allotments on basic commodities.

This eligibility requirement, enacted last year, was designed to effect greater compliance with acreage allotments. But it was subsequently found that it worked inversely on small farms—such as wheat farms of 15 acres or less—which are exempt from wheat acreage allotment quotas.

The ban which has been in existence first for cotton and last year for all basic commodities would have prohibited agricultural conservation payments to all farmers who knowingly harvested any basic commodity crop in excess of the farm acreage allotment. This provision applied to the 15 acre or less wheat farm although such farmer was not subject to acreage allotment of marketing quota restrictions.

## Vulcan Stamping & Mfg. Erecting Addition

BELLWOOD, ILL. — Vulcan Stamping & Mfg. Co., manufacturer of steel shipping pails and drums, has under construction, a new addition to its plant which will allow all railroad freight cars and additional motor trucks to be loaded inside, under cover. The structure is 460 ft. in length and will be covered with aluminum and fiber glass.

In addition, an overhead crane-way is incorporated in the structural steel, running the full length of the building, to facilitate unloading of steel, raw materials and machinery. Modern, up-to-date lighting fixtures are planned to permit 24-hour loading of freight cars and trucks.

## FEDERAL CHEMICAL DIVIDEND

LOUISVILLE — Federal Chemical Co. has declared a \$1 dividend on the common stock, payable June 1 to holders of record May 26.

## NEW SYSTEMICS

(Continued from page 1)

In areas where boll weevil populations exist, studies will also be made to determine the effect of these systemics on over-wintered weevils.

Dr. Ewing said that he expected these belt-wide experiments to supply considerable information concerning the field use of systemics. Control of cotton insects by this method cannot be employed by growers until research has shown how these materials can be used without hazard to persons who apply them or to cotton plants, he said.

Compound 12008 underwent limited field testing last year, it was reported. The potential of 3911 was learned in laboratory and greenhouse experiments carried out last year by USDA and the Texas Agricultural Experiment Station at College Station, Texas. Against some insects, 3911 appeared to be more effective than 12008.

In the College Station tests, the two organics were equally effective against cotton aphids, spider mites, and the salt marsh caterpillar, providing 9-week control of the first two insects and 2-week control of the last. Against thrips and the boll weevil, 3911 proved to be effective for seven weeks, 12008 for about five weeks.

In these laboratory tests last year and in the field trials this year, the two systemics were mixed with activated carbon and applied as a cottonseed treatment. Tests showed that these particular systemic materials were not as readily translocated when applied as foliage sprays as when they were applied as seed treatments.

## Michigan State to Have Elevator Career Day

EAST LANSING, MICH. — The fourth annual Elevator Career Day will be held in the Union Building at Michigan State College, June 28.

## OREGON CROP PLANS

CORVALLIS, ORE.—Larger plantings of barley and corn are planned for 1955 on diverted acres in Oregon, and oat acreage in the state is expected to be reduced about 5%, according to economists at Oregon State College.

## California Fertilizer Sales Set Record In First Quarter

SAN FRANCISCO—Enough commercial fertilizer is used in California every single day to fill a 100 car freight train.

Allen B. Lemmon, chief of the Bureau of Chemistry of the California State Department of Agriculture, makes this estimate upon releasing figures showing commercial fertilizer sales in the state during the first three months of the current year. Sales between January 1 and March 31 of 1955 totalled 283,155 tons, an all-time record for the first quarter of a year. And it would take 100 freight cars coming into the state every day of the year to keep California farmers supplied with this much fertilizer.

Dry, mixed commercial fertilizers of various grades continued to be the major item with 67,334 tons, followed by ammonium sulfate with 60,584 tons.

The third ranking material was ammonia solution, or "aqua ammonia," which accounted for 29,831 tons.

The tonnage of agricultural minerals for the three month period totalled 233,628 tons. While this figure is greater than for the corresponding period in 1954, it is not an all-time record.

Agricultural gypsum again led the minerals, accounting for 208,896 tons, or 89% of the total tonnage in this category.

## California Research Corp. To Enlarge Building

SAN FRANCISCO—A new wing will be constructed on the main laboratory-administration building of the California Research Corp. in Richmond, on the east side of San Francisco Bay.

The wing, involving an expenditure of more than half a million dollars, is the second part of a million and a half dollar expansion program undertaken by the Standard Oil Company of California subsidiary during the past year. A new engine laboratory is presently nearing completion.

The addition to the main building will provide 33,000 sq. ft. of floor space for chemical laboratories and engineering offices. Planning will allow for the possible future construction of a third floor.



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## FERTILIZER-PESTICIDE MIXTURES

(Continued from page 1)

used on an experimental basis by individuals. As yet, we have not received an application for sale of these mixtures. We are filling out this questionnaire giving answers as to how we think these mixtures would be regulated by us."

Speaking for Mississippi, Dr. M. P. Etheredge, state control official, commented: "No fertilizer-pesticide mixtures used in Mississippi so far. One application for use of a fertilizer-pesticide mixture was presented; and the state plant board stated that the application was acceptable. However, the company has not completed registration." (It was not stated whether or not this mixture was intended for use on food crops. If these combination materials are used, regulations under existing fertilizer and pesticide laws will be established.)

New Jersey comments briefly, that no mixtures are used for food crops. The same is true of New Mexico which states that "no fertilizer-pesticide mixtures for use on food crops are sold in New Mexico. We register these mixtures for use on lawns and ornamentals."

Rhode Island comments that "apparently, such mixtures have not yet been sold in this state, or have not been detected. Therefore, . . . answers (to the questionnaire) may refer to what we would require."

Tennessee says it allows use of mixtures, but none are accepted for use on food crops. Texas, however, says flatly, "We still refuse to register fertilizer-pesticide mixtures in Texas."

In Utah, no fertilizer-pesticide mixtures are being sold for use on food crops, but four mixtures have been registered for use on lawns only. Little interest in mixtures has been shown in Wyoming. Consequently, none are registered.

#### Q. Are These Mixtures Registered Under Your Fertilizer Law?

All but a few states answered "Yes" to this question. Those answering "No," were Idaho and West Virginia. No answer was received from Iowa, Mississippi, Nevada and Texas, however. All the rest of the states indicated that these mixtures are registered under the Fertilizer Law.

Last year, "no" answers were received from Missouri, New York, Oregon, Utah, West Virginia and Hawaii, indicating that most of these states have in the meantime included mixtures under fertilizer law registration.

Missouri says that its fertilizer law requires company registration, but does not require brand or grade registration.

In New York, pesticides are not required to be registered under its pesticide law, if they are registered under the Federal Act. "We do not require that they be registered as a fertilizer and properly labeled," state officials said.

Wyoming comments that before sale, mixtures must be registered and must meet all requirements including fees, labeling, etc., of both laws.

#### Q. Do You Have a Law Regulating Pesticides?

A few states, in replying to this question, said that they do not have such pesticide laws. These states are Delaware, Idaho, Illinois, Indiana, Kentucky, Massachusetts, Missouri, Nebraska, Ohio and West Virginia. No reply was received from Iowa and Nevada.

In commenting on this question, Connecticut says that registration is not required under its pesticide law, and Kansas states that recommendations are not required in that state, either.

#### Q. Are These Mixtures Registered Under Your Pesticide Law?

Most of the states replied "yes" to this question. However, negative answers were given by Connecticut, Florida, Idaho, Illinois, Kentucky, Missouri, Montana, Nebraska, New York, North Carolina and Ohio. Not answering this question were Delaware, Iowa, Massachusetts, Mississippi and Nevada.

Connecticut states that registration is not required under the Pesticide Law.

Wyoming says that before sale, mixtures must be registered and meet all requirements of the law regarding fees, labeling, etc.

Puerto Rico states that under its Economic Poison Act these products should be registered. "We are now in the process of requiring registration of them," their representatives said.

#### Q. Do You Collect the Regular Fee Under Your Pesticide Law?

Most of the states indicated "Yes" to the question.

Those replying "No," were Connecticut, Florida, Idaho, Illinois, Indiana, Kentucky, Missouri, Montana, Nebraska, New York, North Carolina, Ohio, South Carolina and Puerto Rico.

Connecticut reports again that registration is not required under its Pesticide Law, consequently no fee would be assessed.

Wyoming says that before sale, mixtures must be registered and meet all requirements of fees, labeling, etc., of both laws.

#### Q. Do You Collect the Regular Fee and Tonnage Tax Under Your Fertilizer Law?

Answers to this question were almost unanimously affirmative. Only Hawaii indicated that it does not collect the regular fee in tonnage tax under its Fertilizer Law. Last year, New York, Oregon, Texas and West Virginia replied "No" to the question.

However, there were a number of states that did not reply to the 1955 question. These included Iowa, Mississippi, Nevada and Texas.

Arkansas indicates that it collects only the tonnage tax. Canada reports that fees are collected, but not the tonnage tax.

#### Q. Name the Pesticides Which Are Generally Used in These Mixtures in Your State.

Alabama: Aldrin, Dieldrin, DDT, Chlordane.

Arizona: DDT for lawn use only.

Arkansas: Aldrin, for control of rice field mosquito and rice water weevil.

California: Aldrin and Dieldrin.

Colorado: Aldrin, Dieldrin and Chlordane.

Connecticut: DDT only.

Florida: Aldrin, Chlordane and DDT.

Georgia: Aldrin, Chlordane and DDT.

Idaho: DDT, Aldrin and Chlordane.

Illinois: Aldrin Boron.

Indiana: Aldrin, Dieldrin and Lindane.

Kansas: Aldrin.

Kentucky: Aldrin and Chlordane.

Louisiana: Aldrin.

Maine: Registration permitted on grades recommended by the Maine Experiment Station.

Maryland: Aldrin.

Massachusetts: 2,4-D and Chlordane.

Michigan: Aldrin and Chlordane.

Minnesota: Aldrin, Dieldrin, Heptachlor, and Chlordane.

Missouri: Aldrin and Chlordane.

Nebraska: Aldrin only.

New Hampshire: 2,4-D.

New Jersey: "None recommended. The Experiment Station feels this is not the proper way to control pests. The few mixtures registered have been handled as special mixtures, and are for use on lawns, parks and golf courses."

New Mexico: None sold.

New York: Chlordane.

North Carolina: Chlordane, Aldrin, Dieldrin, Heptachlor, Toxaphene and DDT.

North Dakota: Chlordane and 2,4-D.

Vermont: Chlordane and DDT.

Virginia: Virginia has a restricted list of approved grades of fertilizers. Grades 0-14-14, 0-10-20 and 2-12-12, containing 8 lb. Aldrin or 8 lb. Heptachlor a ton, are recommended by the Virginia Experiment Station, for use on peanuts for control of Southern corn root worm.

Washington: Aldrin, 2,4-D and IPC.

West Virginia: Chlordane.

Wisconsin: Aldrin, Dieldrin and Chlordane.

Canada: Thiram, 2,4-D, Lindane, Aldrin, Dieldrin and Heptachlor.

Hawaii: Weed killers, 2,4-D and 2,4,5-T.

Puerto Rico: Up to the present time, only Aldrin is being used.

#### Q. Does Your State Experiment Station Recommend Fertilizer-Pesticide Mixtures?

To this question many of the states answered "No." Those indicating that their experiment stations do not recommend this type of mixture, included Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Louisiana, Maryland, Massachusetts, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Texas, Utah, West Virginia, Wyoming, Canada, Hawaii and Puerto Rico.

The "Yes" states included Alabama, Idaho, Illinois, Indiana, Kansas, Kentucky, Maine, Michigan, Minnesota, New Hampshire, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, Washington and Wisconsin. The other states made no reply to the question.

Massachusetts commented that "very limited sales of fertilizer-pesticide mixtures are made. Experiment station so far has recommended neither for nor against the use of such mixtures."

New Jersey comments that none is recommended. "The experiment station feels that this is not the proper way to control pests," it reports.

North Carolina says that its Experiment Station neither recommends nor opposes fertilizer-pesticide mixtures. "Among the reasons for this are that the most effective application of pesticides to soil generally is by broadcasting, while fertilizers are more often applied in the rows. Under varying conditions a satisfactory rate of application of the two when mixed becomes a rather acute problem."

#### Q. Do You Limit Registration and Distribution of Fertilizer-Pesticide Mixtures to Those Mixtures Recommended by the State Experiment Station?

Replies to this question were not overwhelming either way. Those answering that they do depend upon state experiment recommendations, included Alabama, Arkansas, Illinois, Indiana, Kansas, Maine, Michigan, New Mexico, North Dakota, South Dakota, Tennessee, Vermont and Virginia.

Arkansas comments that if it were to permit sale of these mixtures, it would "possibly be limited to recommendations."

Maryland says that its experiment station approves the application be-

fore registration is made.

Massachusetts comments that its experiment station so far has recommended neither for nor against the use of such mixtures.

New Jersey reiterates that none are recommended for use in that state.

North Carolina says that its Experiment Station "does not recommend any fertilizer-pesticide mixture. However, acceptance for registration under the North Carolina law would not be extended beyond the six items (Chlordane, Aldrin, Dieldrin, Heptachlor, Toxaphene and DDT) which represent those that have been qualified as permissible in fertilizer-pesticide mixtures."

South Carolina says that "in the past, a few pesticide-fertilizer mixtures have been registered before they were actually recommended, but at the present, all of the materials registered have either full or partial recommendation."

#### Q. Have You Issued Regulations Covering the Sale and Distribution of These Mixtures?

Most of the states replied that they have not done this yet. A few, however, indicated that they have. They are Florida, Georgia, Indiana, Kentucky, Maryland, Michigan, Minnesota, North Carolina, South Carolina, Utah and Virginia.

Alabama comments that "Regulations are not being considered, probably will be promulgated and put into effect in 1955."

Georgia qualifies its reply by quoting the law pertaining to this. "Regulations 3-2-55, Section 2—field crop fertilizers with pesticides (food, forage, fiber and tobacco formulations) may contain those organic pesticides that are known not to affect flavor or are incapable of translocations so as to transmit residues, and may be sold without restriction as to area and package size, except that there be no bulk sales or deliveries of these mixtures."

"All packages must be fully labeled showing both the fertilizer and pesticide guarantees, and must be in confirmation with both laws. All labels must be accepted under the Georgia Economic Poisons Act and the Federal Insecticide Fungicide and Rodenticide Act. Dual registration under the Georgia Fertilizer Law and The Georgia Economic Poisons Act is required."

Michigan reports that regulations permitting the use of fertilizer and pesticide mixtures were adopted March 14, 1955, and the plan for these mixtures, under the regulations, is just beginning to materialize. Regulations are in close accord to Virginia regulations.

#### Q. Do You Permit Sale in Bulk?

Bulk sales are permitted in Arkansas, Connecticut, Delaware, Idaho, Illinois, Indiana, Kentucky, Maryland, Minnesota, Missouri, Nebraska, New Hampshire, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, Vermont, West Virginia, Wisconsin and Puerto Rico. Last year, fewer states indicated that bulk sales would be permitted.

Arkansas comments that it, "Probably would under certain conditions."

In Colorado, the question has not yet come up so there is no decision on such a ruling.

The Louisiana situation is similar. It comments, "The question has not come up. We will probably require paper bags."

Massachusetts says that these mixtures have been distributed in heavy paper sacks, "But we have no requirements to this effect."

New Jersey indicates that it has no regulations in this regard.

New York, also, reports that the question has not yet arisen there.



However, these mixtures are "generally sold in paper bags."

North Carolina says that the questions of the sale in bulk of fertilizer-pesticide mixtures has not arisen. However, there is no prohibition against it.

Rhode Island says that it would permit bulk handling, "If properly labeled."

#### Q. Do You Permit Sale in Woven Bags?

Replies to this question indicate that most of the states do permit such materials to be sold in woven bags. Those states answering "Yes" are Kentucky, Maine, Minnesota, Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Idaho, Illinois, Missouri, Nebraska, New Hampshire, New York, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Utah, Vermont, Washington, West Virginia, Canada and Puerto Rico.

A number of states indicated that the problem has not yet come up. Arizona said that if it did come up, they "would not permit use of woven bags."

Arkansas indicated that it "probably would" permit use of woven bags.

Florida said, "We have not specified the kind of bag."

Louisiana indicates that although the question has not yet come up, we will probably require paper bags.

Massachusetts reminds that there are no requirements in its law regarding the kind of bag to be used, but most mixtures have been distributed in heavy paper sacks.

Minnesota says that these "mixtures have never been offered for sale in such (woven bag) containers."

New Jersey says that no regulations cover this phase of the business.

North Carolina states that "sale of fertilizer-pesticide mixtures in woven or fabric bags has not been specifically prohibited. However, recommendations would be against it. Failure to heed such recommendations would dictate possible withdrawal of registrations or promulgation of regulation."

The Canadian government indicates that paper bags are generally used, but woven bags are permitted."

#### Q. Do You Require That Mixtures Be Distributed in Heavy Paper Containers?

To this question most of the states replied that no such requirement exists. However, a few do make such a specification.

Those states which specify heavy paper bags for fertilizer-pesticide mixtures are Colorado, Idaho, Louisiana, Maine, Maryland, Michigan, New York, North Dakota, South Dakota, Virginia, Canada and Hawaii.

Arizona comments that those mixtures sold for lawn use are packaged in paper bags.

Arkansas comments that it "probably would not" require paper bags.

Florida says that, "We have not specified the kind of bag."

Massachusetts says that most of these mixtures have been distributed in heavy paper sacks, "But we have no requirements to this effect."

Minnesota says that no regulation exists requiring paper containers, however, such containers are in common use.

New Jersey says that no regulations cover this situation.

North Carolina says that heavy paper containers are not required in the distribution of fertilizer-pesticide mixtures. However, no package which permitted leakage or dusting out of these mixtures would be considered acceptable.

#### Q. Do You Require a Label Showing:

- Ingredient statement for both fertilizer and Pesticide?
- Directions for use?
- Warning statements?
- Other requirements under both laws?

A great number of the states indicate that a label showing ingredient statement for both fertilizer and pesticide is required. The only states that indicated that such is not required were Delaware, Massachusetts, Ohio and West Virginia.

No reply to this question was received from Iowa, Mississippi, Nevada and Texas.

#### Q. Do You Require Directions for Use?

Most of the states replying indicated that they do require such directions. In fact, the only states indicating that instructions for use were not required were Connecticut, Florida, Massachusetts, Nebraska, Ohio and West Virginia.

No reply was received from Delaware, Iowa, Mississippi, Missouri, Nevada, North Carolina, Oklahoma, Oregon, Pennsylvania, Texas and Utah.

Connecticut comments that it has provisions for an ingredient statement only.

Missouri says that directions for use are recommended but not required for pesticides.

Oregon indicates that it does not require such information on the label.

#### Q. Do You Require a Warning Statement?

In reply to this question, practically all of the states responding to the questionnaire indicated that this information is required on labels.

Exceptions, states which do not require warning statements, are Connecticut, Massachusetts, Nebraska, New Hampshire, Ohio and West Virginia. A few states did not reply to the question. They were Delaware, Iowa, Mississippi, Missouri, Nevada, Oklahoma and Texas.

The questionnaire asked further if other requirements were made under both laws and states were requested to send in copies of labels in use.

Montana commented that the federal label is acceptable in that state, while most of the other states sent along labels indicating that further requirements are made for fertilizer-pesticide mixtures.

#### Q. In Addition to Label, Do You Require a Red Tag Bearing a Warning or Other Statements?

Replies to this question were varied. Red tags are required in the following states, according to the questionnaire replies: Colorado, Florida, Illinois, Indiana, North Carolina, Pennsylvania, South Carolina and Puerto Rico. The remaining states indicated that such red tags were not a requirement under their laws.

#### Q. Do You Permit "Buyer's Mixtures" or "Farmer's Mixtures" Whereby a Farmer May Have Any Pesticide Added to His Fertilizer by the Manufacturer?

In reply to this question most of the states indicate that such mixtures are permitted. Under this type of permit, custom made mixes may be sold to a farmer by the manufacturer.

The states indicating that they do not permit such activities are Arizona, Colorado, Kansas, Louisiana, Michigan, New Mexico, South Dakota, Utah, Virginia, Washington, Wyoming and Puerto Rico.

Comments on such custom mixtures are made by a number of the

states. Alabama says that "These mixtures are permitted on written orders signed by purchaser with complete formula, tonnage, name and address of purchaser." The mixtures must be labeled.

Florida says that "All such mixtures are made on special order."

Louisiana notes that the pesticide law requirements would apply in this case.

Minnesota indicates that such custom jobs are permissible if registered.

North Carolina comments as follows: "Buyers or farmers mixtures present the same old problems, whether only fertilizers or fertilizer-pesticide mixtures. These would not be recommended nor encouraged; however, there is no prohibition or law against it."

Rhode Island indicates that it permits these activities if the ingredients are registered with the state office.

Washington takes a realistic viewpoint of the situation. It comments that "It probably has been done without our knowledge."

In Puerto Rico, it is indicated that cases of this nature have not yet arisen.

#### Q. Are "Buyers Mixtures" Subject to Regulation Under Fertilizer and Pesticide Laws?

Replies to this question were more equally divided than in the case of some of the other questions. States indicating that such do come under the fertilizer and pesticide laws included Arizona, Arkansas, California, Colorado, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maine, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Washington, West Virginia, Wisconsin and Wyoming.

The other states indicated that they do not consider such mixtures as subject to regulation under fertilizer and pesticide laws.

#### Q. Do You Analyze Fertilizer-Pesticide Mixtures?

Most of the states indicate that an effort is made to analyze fertilizer and pesticide mixtures.

The exceptions, those who do not make such analyses, include Alabama, Arkansas, Illinois, Montana, Nebraska, Ohio, South Dakota, Tennessee, Wyoming and Hawaii.

Colorado comments that it does make analysis of fertilizers. In Colorado, fertilizer-pesticide mixtures are considered and treated separately by the Colorado Department of Agriculture.

Delaware also comments that it analyzes fertilizer only.

Indiana says that mixtures are analyzed as fertilizer only at present, "but we are preparing to analyze for pesticides."

Kentucky also analyzes fertilizer only. The same is true of New Hampshire. New Jersey indicated it has made attempts to analyze pesticides in mixtures.

Pennsylvania says that it has analyzed a few such mixtures, while Rhode Island observes that it "reserves the right" to make such analyses.

#### Q. Have You Established Tolerances for Deficiency or Excess of Pesticide?

Not many of the states have made such provision for tolerances. The only ones who replied "Yes" to this question were Arizona, Virginia and Canada.

North Carolina commented that such provision has been set up tentatively but is subject to revision. "Tolerances as for pesticides are followed."

A Canadian officer comments that "tolerance is that associated with ac-

curacy of method. Excesses have not been demonstrated."

#### Q. Do You Permit the Sale of Lime or Gypsum Mixed with Pesticides?

The states indicating that this is permissible are Arizona, Arkansas, California, Delaware, Idaho, Illinois, Maine, Maryland, Minnesota, Mississippi, Nebraska, New Hampshire, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Washington and West Virginia.

Some comments were made by various states as follows:

Alabama says "have had no requests for mixtures containing pesticides and lime or pesticide and gypsum."

Arizona says, "if materials appear to be compatible, they would have to be accepted."

Arkansas reports that it "would (permit sale of lime or gypsum mixed with pesticides) if approved by Federal Insecticide, Fungicide and Rodenticide Act."

Florida says that no restrictions on such mixtures would come up if they are in accordance with the state's technical regulation No. 5.

Indiana indicates that it has no control over this. "Indiana does not have a pesticide law. However, such mixtures are regulated under Indiana Fertilizer Law. Items must be labeled to show ingredient percent, and bear caution and direct statements similar to requirement of the model pesticide law. Labeling directions were issued in January, 1955."

In Louisiana, the pesticide law requirements would apply in this case.

Maryland says that "these have in the past been acceptable, for instance, bordeaux mixtures, etc. However, the newer pesticides introduced problems not encountered heretofore. Therefore, each application is considered on its own merits. We have not had the question up for discussion currently."

North Carolina comments that the question regarding the sale of pesticides mixed with lime or gypsum has not yet arisen there. "Upon arising, such mixtures apparently would not be subject to the same considerations given to fertilizer-pesticide mixtures in the regulations," it observes.

Rhode Island comments that action on this will depend upon experiment station recommendations. South Carolina says, "We have no requests for this type of mixture."

#### Q. Are Changes in Your Laws Now Being Considered?

Ten states indicated that some changes are being considered. These states are Arizona, Connecticut, Delaware, Maryland, Massachusetts, Missouri, New Hampshire, Oregon, South Dakota and Washington.

Indications of what some of these changes may be, or recent changes made in some of the states include the following information: Arizona has new laws HB-147 and HB-148, governing these materials which were passed by the legislature in 1955, and will become effective January 1, 1956. Regulations covering fertilizer-pesticide mixtures will be in order after effective date of new law.

Missouri indicates that a new pesticide bill is now being considered by its legislature. In North Carolina, need for a change is being studied.

Canada reports that although new laws are being considered, they are not in specific relation to these mixtures.

#### SOIL INSECTICIDES

COLUMBIA, MO.—Soil insecticides for use on corn land have caught on faster in Missouri than nearly anything since DDT, according to Stirling Kyd, University of Missouri extension entomologist.



# MEETING MEMOS

June 7-10—Alabama Fertilizer Conference and Tour: June 7, Cullman and Belle Mina; June 8, Winfield; June 9, Camden and Monroeville; June 10, Fairhope.

June 9-11—Manufacturing Chemists Assn. and Synthetic Organic Chemical Manufacturers Assn., Annual Meeting of MCA, the Greenbrier, White Sulphur Springs, W. Va.

June 12—Executive Committee, Fertilizer Section, National Safety Council, Roanoke, Va.; Thos. J. Clarke, GLF Exchange, Ithaca, N.Y., Chairman.

June 12-15—Joint meeting, American Plant Food Council, Inc. and National Fertilizer Assn., Greenbrier Hotel, White Sulphur Springs, W. Va.; Paul T. Truitt, American Plant Food Council, 910 17th St. N.W., Washington, D.C., in charge of registration.

June 14-16—Symposium on Fertilizer Economics Research, Sponsored by Agricultural Relations Division of TVA, Knoxville.

June 21—Western Agricultural Chemicals Assn., Spring Meeting, Clark Hotel, Los Angeles; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Secretary.

June 22—Pacific Slope Branch, Entomological Society of America, Mission Inn, Riverside, Cal.

June 22-24—Association of Southern Feed & Fertilizer Control Officials, Jung Hotel, New Orleans.

June 24-26—Delmarva Peninsular Fertilizer Assn., Annual Convention, George Washington Hotel, Ocean City, Md.

June 27-29—North Central Branch, American Society of Agronomy, Summer Meeting, Ames, Iowa.

June 28-30—Sixth Annual Pacific Northwest Plant Food Assn., Regional Fertilizer Conference, Boise Hotel, Boise, Idaho; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

July 5-8—Plant Food Producers of Eastern Canada, Bigwin Inn, Muskoka, Canada.

July 14-15—Southwest Fertilizer Conference and Grade Meeting, Buccaneer Hotel, Galveston, Texas.

July 20-21—Great Plains Agricultural Ammonia Assn. Midwest Trade Show & Field Day; Business Session for Members July 20 at Hotel Fort Des Moines, Des Moines, Iowa; Field Day July 21 near Ames; James Andrew, Box 447, Jefferson, Iowa, Secretary.

July 27-29—Northeast Branch, American Society of Agronomy, University Park, Pa.

Aug. 8-10—Summer Meeting of North Central Division, American Phytopathological Society, Wooster, Ohio; further information from H. C. Young, Dept. of Botany & Plant Pathology, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 9-11—Ohio Pesticide Institute Meeting and Field Tour, Wooster, Ohio; Dr. J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Secretary.

Aug. 10—Kentucky Fertilizer Conference; Guignol Theatre, University of Kentucky, Lexington.

Aug. 15—National Joint Committee on Fertilizer Application, Cooperative Meeting with the American Society of Agronomy, University of California, Davis Campus.

Aug. 15-19—American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Aug. 15-20—Farm & Home Mechanization Pageant, Michigan State College, East Lansing, Mich.

Sept. 7-9—National Agricultural Chemicals Assn., Spring Lake, N.J.; Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

Sept. 7-9—Ninth Annual Beltwide Texas A&M College, National Cotton Council of America, Box 18, Cotton Mechanization Conference, Memphis 1, Tenn.

Oct. 17-18—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

Oct. 27—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. LaSalle St., Chicago, Ill.

Nov. 2-8—Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 3-4—Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers University, New Brunswick, N.J., secretary.

Nov. 7-8—California Fertilizer Assn., Thirty Second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary & Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 29-Dec. 2—Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5-7—Chemical Specialties Manufacturers Assn., 42nd Annual Convention, Roosevelt Hotel, New York; H. W. Hamilton, 50 E. 41st St., New York 17, N.Y., Executive Secretary.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 28-30—American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

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Jan. 4-6—Weed Society of America, Charter Meeting, Hotel New Yorker, New York, W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

## Texas Rain Story: From Too Little To Too Much

ABILENE, TEXAS—From too little to too much has been the rainfall trend in Texas the last three weeks. Parched rangeland and dusty fields are now sopping wet in most sections, and a few areas are crying for a little sunshine and hot weather.

Throughout the High Plains area which is partly irrigated, dashing rains have leveled furrows and caused farmers to replant their crops. Dryland farmers now have the best prospects in several years and are busy planting cotton.

Irrigation farmers are jubilant also, because a wet year would allow them to shut down their wells for weeks at a time and give them a much needed rest. Water tables have been falling steadily, and many landowners can foresee a time when the underground supply of water may be exhausted.

## Freeport to Mine New Underwater Sulphur Deposit

NEW YORK—Freeport Sulphur Co. will install facilities to produce sulphur from a newly discovered salt dome deposit in the Louisiana tidelands, the company has announced.

The deposit, known as Lake Pelto, is located near its Bay Ste. Elaine mine about 60 miles southwest of New Orleans. Beneath 6 to 8 feet of water, Lake Pelto is within a mile of the open Gulf, being separated only by a narrow island.

Prospecting operations by Freeport were begun there early this year, and drilling has progressed to the point where a decision has been reached to install facilities to mine the property, according to the company's statement issued after a recent meeting of the board of directors.

## Weevil Count

BATON ROUGE—Ground trash examinations in Madison Parish, La., have shown the number of boll weevils surviving the winter to be the largest since 1950 and the second largest since the trash examinations were begun in 1936, says R. C. Gaines of the Tallulah Cotton Insect Laboratory. The trash examination showed 2,021 weevils to the acre, as compared to 2,202 in 1950. Comparisons with results of a ground trash examination last fall indicate a survival rate of about 75%. Other studies this spring showed 121 live boll weevils per acre in Ouachita Parish, 242 in St. Landry, 726 in Avoyelles, 968 in Red River and 726 in Bossier, Mr. Gaines said.

## Best Crop Outlook In Several Years Reported in Mid-South

MEMPHIS—Cotton farmers in the Mid-South are hoping for a letup in the rains so they can start chopping their cotton.

Extension officials in Arkansas, Mississippi and Tennessee reported that rains caused the cotton crop and weeds to grow rapidly and that farmers are getting ready to begin chopping.

In some areas, where farmers are cross-plowing their cotton, chopping is eliminated and plowing will get under way in about a week or 10 days.

Farm officials reported the crop outlook is better now for this time of the year than it has been in three or four years. They pointed out the crops have had the right amount of rain at the right time in most of the areas.

In West Tennessee, Judd Brooks, district agent at Jackson, pointed out the wet weather during the week held up some planting, but most of the cotton has been planted and is up to a good stand.

"Corn planting has made good progress on middle and high ground, but the bottom lands have been too wet to plant," he said. "Stands are for the most part good except where cutworms have been prevalent."

"Small grains and pasture are in excellent shape and truck garden crops show unusually well because of the wet spring weather. There is little hope for peaches and pears, but apples look better than had been anticipated."

Cotton chopping in Arkansas is expected to get in full swing within the next week or 10 days, assuming fair weather prevails, the Agricultural Extension Service reported. The Extension Service said farm labor has been adequate so far but warned the demand probably will exceed the supply when chopping hits its peak.

Cotton stands were reported from fair to good, and recent general heavy rains, in which some areas reported as much as seven to nine inches, were expected to complete bringing up late-planted cotton.

Farmers have had a greatly improved spring over last year for crops in general, said C. A. Vines, associate director of the Agricultural Extension Service at Little Rock.

Mississippi's entire agricultural outlook is vastly improved following fairly general rains, according to Agricultural Extension Service specialists.



U. E. Philpott



R. C. Thomas



F. H. Schardt



H. F. Wilson



E. G. Harvey

**BEMIS CHANGES**—A. C. Greer, sales manager for the Indianapolis Sales Division, Bemis Bro. Bag Co., has announced organizational changes designed to concentrate sales activities and increase sales coverage in Indiana, Ohio, Kentucky and Michigan. Three senior salesmen have been designated sales supervisors. They will report to Mr. Greer, who, as sales manager, will continue to have sales responsibility for the entire Indianapolis Sales Division territory. The three sales supervisors are: U. E. Philpott, formerly plant merchandiser at the Indianapolis plant, who will supervise sales in Indiana and Ohio; R. C. Thomas, formerly sales representative with headquarters

in Grand Rapids, who will be in charge of the Detroit sales office and supervise sales in Michigan, and F. H. Schardt, manager of the Louisville sales office, who will have supervisory responsibility for sales in Kentucky. Also involved in the reorganization are H. F. Wilson, who will move from Detroit to Indianapolis to assist the sales manager on sales promotion activities, and E. G. Harvey, who was assistant sales manager and will become plant merchandiser for the Indianapolis plant. J. A. Davies has transferred from the Louisville office to Grand Rapids for sales work in that area, and F. L. Ashinger has been moved to Detroit to work out of that office.

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## WORLD REPORT

### Industry News from Everywhere

By GEORGE E. SWARBRECK  
Croplife Canadian and Overseas Editor

While British business circles generally were relieved that the Socialists failed to oust the Conservative government of Sir Anthony Eden at the recent elections, their satisfaction would be as nothing compared with that felt by the directors of Imperial Chemical Industries, Ltd. The reason? The Socialists said that if they were returned to power they would take steps to nationalize ICI, one of the largest chemical organizations of the world, and important in both the domestic and export markets for fertilizers and pesticides.

Main target for the Socialists was that side of the business devoted to munitions, but fertilizers and other agricultural chemical facets of the business would have been thrown into the melting pot. Observers believe that the whole of the British chemical industry would have been involved in this nationalization process in short order. This could have meant that soon the chemical industry would have been in as big a mess as those industries nationalized by the Socialists in their years of power between 1945-51.

The return of the Conservatives to power was a relief to many suppliers of agricultural requirements, including the fertilizer trade, for another reason. While the Conservative government is not committed to as much subsidization as its left-wing opponents, there is still plenty of aid and encouragement given to agriculture, and this is seen as aiding business prosperity generally.

Under the direction of Sir Winston Churchill, in the previous government, the Conservative policy was aimed at inculcating some semblance of competition into the farming business, whereas the Socialist theories tended to "featherbed" the producers of agricultural commodities. Observers believe that the Conservative policy is conducive to more efficient agricultural organization.

#### Canadian Spraying

Two million acres of forest infested with budworm are to be sprayed with DDT in the Gaspé peninsula of Quebec and northern New Brunswick within the next few weeks. An advance party of ten U.S. pilots, each flying his own plane, is already surveying the ground in preparation for the job, which will eventually involve 80 aircraft from the U.S. and Canada.

#### Aerial Spraying

The British firm of Fisons Pest Control, Ltd., which specializes in the agricultural use of helicopters, and Airwork, one of the leading U.K. independent air transport companies, are jointly forming a new company which will undertake helicopter operations of all kinds throughout the world.

The new company will be called Fison—Airwork, Airwork and Fisons pest control will be equal stockholders in the new organization. The company will take over and operate the fleet of eight U.S. built helicopters at present owned by Fisons.

Activities will cover executive charter, surveying and engineering construction, as well as all forms of aerial work in connection with agriculture and forestry. In addition to helicopters, fixed wing aircraft will also be used.

Airwork will be responsible for the commercial operation and administration of the company, while Fisons will handle all technical matters affecting agriculture, including the design of special spraying gear and in

obtaining agricultural spraying contracts.

The chairman of the new company will be M. D. N. Wyatt, who is chairman of Airwork. Mr. Wyatt states, "we believe that a tremendous future lies ahead for the rapidly developing helicopter, not only in the realm of agriculture and forestry, but also in the day-to-day commercial and industrial life of the world."

#### Locust Control

Aerial operations are playing an increasingly important part in the control of the desert locust, which is currently attacking crops in many parts of the world, but particularly in Africa and the Middle East. Because of the spread of the plague the authorities are expressing considerable concern about the cost of the operations.

The East Africa high commission has appointed a committee to review the present operations of the desert locust control organization, with particular reference to the desirability or the necessity of the present level and geographical spread of expenditure on locust control work, and to make recommendations for the future; to review the arrangements of financial control and accounting methods of the organization, and to make any other recommendations which may seem feasible to improve the whole extent and scope of the operation.

Included on the committee is Sir Francis Nudie, chairman, and Dr. B. P. Uvarov, director of the Anti-Locust Research Center in London. The committee left for East Africa May 23, and will visit units of the control organization operating inside and outside East Africa.

Though ground crews are used to a certain extent, most of the operation depends upon the activities of

several squadrons of planes which fly into the paths of locusts spreading pesticide in their midst. The extent of the operation in the past few months has been extensive and considerable success has been claimed.

#### ICI Expansion

Imperial Chemical Industries, the Australian branch of the British parent, has announced plans to build new research laboratories near Melbourne at a cost of \$730,000. The laboratory will be in use before the end of 1956, the firm states.

Work will be concentrated on improving the company's range of products in the fertilizer and pesticide field.

#### Germans Spray

The return of independence to West Germany means that it can now have its own air force. One of the first steps taken was the immediate launching of a helicopter offensive against an invasion of June Bugs expected in the Rhineland and Frankfurt areas.

## APFI CONVENTION

(Continued from page 1)

of representatives of the Future Farmers of America, 4-H Clubs and the National Junior Vegetable Growers Assn. Moderator will be William B. Ward, head, Department of Extension Teaching and Information, Cornell University.

E. L. Peterson, assistant secretary of agriculture, Washington, D.C., is scheduled to appear for an address to complete the morning's program.

Two lawmakers are on the program for Wednesday morning: Harold D. Cooley (D., N.C.), chairman of the House Committee on Agriculture and Sen. John L. McClellan (D., Ark.), chairman of the Senate Committee on Government Operations.

Various committee meetings are scheduled. A joint meeting of NFA's Plant Food Research Committee and the Agronomy Advisory Committee of the APFC, scheduled to be held Monday morning, is open to all convention registrants. Reports of the work done by both groups will be heard at that time.

As has been the custom for many years, the afternoon of each day will be devoted to recreation including tennis, golf and horseback riding. Contests for the ladies will include canasta and bridge as well as a putting contest.

Committees responsible for various activities in connection with the convention have been announced jointly by APFC and NFA. They are as follows:

Convention Committee—Ralph B. Douglass, E. A. Geoghegan, Joseph A. Rowell, John A. Miller, Edwin Pate, C. T. Prindeville, Paul J. Prosser, Sr., John E. Sanford, J. E. Totman, and Louis Ware.

Hospitality Committee—W. F. Price, chairman, Mr. and Mrs. Horace Albright, Mr. and Mrs. Cecil Arledge, Mr. and Mrs. C. B. Clay, Mr. and Mrs. W. B. Copeland, Mr. and Mrs. J. E. Culpepper, Mr. and Mrs. Leroy Donald, Mr. and Mrs. E. M. Kolb, Mr. and Mrs. Maurice Lockwood, Mr. and Mrs. Walter Meeken, Mr. and Mrs. W. N. Watmough, Jr. and Mr. and Mrs. Fred Woods.

Memorial Committee—George W. Gates, chairman, Moultrie J. Clement, F. S. Washburn and George F. Wilkins.

Tennis Committee—Dean R. Gidney, chairman, William Dunklin, vice chairman, A. J. Dickinson and Mrs. G. D. Glover.

Committee on Prizes—Mrs. J. F. Cerkill, Mrs. E. M. Kolb, Mrs. J. E. Totman, Gene Van Doren, John W. Hall and R. S. Rydell.

Ladies' Committee—Mrs. John V. Collis, chairman, Mrs. Cecil Arledge, vice chairman, Mrs. R. E. Bennett, Mrs. L. Ralph Boynton, Mrs. T. F.

Bridgers, Mrs. Moultrie J. Clement and Mrs. G. Albert Woods.

Horseshoe Pitching Contest Committee—A. A. Schultz, chairman, H. G. Cunningham, William Lehmann, C. R. Martin and H. A. Parker.

Men's Golf Committee—Gene Van Doren, chairman, R. S. Rydell, vice chairman, J. Porter Brinton, John W. Hall, R. B. Lenhart, Clyde Marshall and Morris Newman.

Ladies' Golf Committee (including putting)—Mrs. Fred Cerkill, chairman, Mrs. J. D. Stewart, vice chairman, Mrs. T. W. Childs, Mrs. Marlin Geiger, Mrs. W. B. Porterfield and Mrs. W. T. Steele, Jr.

Bridge and Canasta Committee—Mrs. S. L. Nevins, chairman, Mrs. John W. Hall, vice chairman, Mrs. J. A. Naftel, Mrs. B. P. Redman, Mrs. John R. Taylor, Jr. and Mrs. F. T. Techter.

## SPRAY PROJECT

(Continued from page 1)

One pound of DDT in one gallon of fuel oil will be used per acre. This is expected to reduce the infestations by 97 to 99%, and yet not be harmful to animals and birds. Special precautions will be made for bee colonies and fish hatcheries.

The aerial spraying job has been awarded to four contractors: Central Aircraft Corp., Yakima, Wash., to spray 104,305 acres of Carson National Forest; Johnson Flying Service, Missoula, Mont., 115,274 acres of the Pecos area of Santa Fe National Forest; Ace Flying Service, Salem, Ore., 151,117 acres of the Jemez and Mount Taylor areas of Santa Fe and Cibola National Forests; and Central Aircraft Corp., Yakima, Wash., 75,626 acres of Lincoln National Forest.

Jim Egan of the timber management staff is project director. Dr. Cal Massey, head of the Albuquerque Forest Insect & Disease Laboratory of the Rocky Mountain Forest and Range Experiment Station, is chief biologist.

Under Dr. Massey's direction, an army of biologists, helpers and radio-men is now making daily collections of budworm larvae to be able to determine the right timing for the spraying. Some of their studies are being done by jeep and horseback.

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## SOILS and FERTILIZERS

Fourth Edition

By **FIRMAN E. BEAR**, Research Specialist, New Jersey Agricultural Experiment Station.



1953. 420 Pages \$6.00

In plain language, this new edition tells how recent modern advances in soil technology affect plant growth and annual yield . . . and how the effective use of basic methods can increase the productivity of farm lands. New facts, accurate figures, and 66 pointed illustrations show the relation between crops and soils.

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# Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Western states.

## Publicity Effort Lauded

Both unusual and helpful is the publicity program currently under way by Union Bag & Paper Corp., New York, which is endeavoring through the medium of 2,600 weekly farm newspapers throughout the country, to stimulate the sale of fertilizer.

Driving home the theme that "More fertilizer means bigger farm profits on less acreage," the news stories carry the picture of a farmer filling an applicator with fertilizer from a bag and also a shot of the material being applied to the field.

Copy in the news story points out that through the use of adequate amounts of plant food, farmers could make \$20 million more profit from 120 million bushels of corn than they could on 140 million bushels grown on a skimpy diet of fertilizer.

Cotton farmers, too, it is pointed out, can make as much profit from 900,000 bales of cotton from well-fertilized acres, as they could from twice that number on low-fertility land.

"Fertilizer helps produce a much bigger yield per acre," the copy reads. "This increase in production enables farmers to use less acreage, thereby cutting production costs." The story isn't new to us in the trade, because we hear it and talk about it much of the time. But one could scarcely overemphasize it to the farmer . . . the fellow who must be convinced that fertilizer does pay.

Union Bag, in providing this type of publicity, is doing a good service for the entire industry. According to Sydney K. Bradley, vice president of the firm, the program was planned "to supplement consumer promotions by fertilizer manufacturers. We hope that our program will create an even wider spread of awareness at the farm level, of the benefits from the wise use of fertilizer."

The more the fertilizer story is told, the better it is for all in the trade. Everyone stands to gain by increased volume and sales of fertilizer, including the users and all the people who offer goods and services to move the plant food from basic producers through trade channels, down to the farm.

## Progress Seen in Mixtures

How far has fertilizer-pesticide mixture acceptance advanced during the past year? There are many people in both trades who are concerned with the answer to this question, and these will read with considerable interest the results of a questionnaire sent out by Rodney C. Berry, Virginia state chemist. A summary of replies to the questionnaire is published in this issue of Croplife.

Since a similar questionnaire was sent out last year, it is possible to check whether or not the idea has gained ground or lost. It can also be determined whether control officials in the various states and territories are inclined to accept such mixtures, and if some of the problems in connection have been solved.

Probably of most significance is the fact that mixtures are being sold in a wider area than they were at this time last year. That fertilizer-pesticide combinations are being sold in their areas was reported by six more states than so indicated last year when Mr. Berry sent out a similar questionnaire.

A change was also noted in the apparent attitude of many state control officials who last year reported that mixtures of fertilizers and pesticides were not permitted in their states, but who now say that they are being sold under certain conditions. Only one state official declared flatly that applications for registration are being refused.

At the present time, according to Mr. Berry, fertilizer-pesticide mixtures for use on lawns or ornamentals are being sold in Canada, Hawaii,

Puerto Rico and in about 40 states and for use on agricultural crops in about the same area. He points out further, however, that although the sale of these mixtures covers a rather large geographical area, sales in most states are not large.

Control officials in the various states are trying to be reasonable and understanding in their attitude toward the registration and sale of these mixtures. In view of the multiplicity of factors involved, the officials have adopted policies toward fertilizer-pesticide mixtures that certainly should not stand in the way of time progress.

They have, for instance, resolved not to register nor permit the sale or custom mixing of these materials unless such have been formally approved by the state Agricultural Experiment Station, or other officials with such responsibility in the state.

They also look upon the possibility of misapplication as being a real hazard and point out that the economic gain from labor-saving could easily be offset if carelessness should cause contamination of crops or soils.

Proper labeling to meet all requirements of both the fertilizer and pesticide laws of the various states is another demand made by the state officials whose responsibility it is to keep such things in good order.

The whole problem, as seen by control officials, manufacturers, and government technical people, will be aired in a symposium on the subject at the meeting next week when the new National Plant Food Institute has its preliminary convention at the Greenbrier.

This panel is expected to bring out most of the current thinking on the puzzling and controversial subject of fertilizer-pesticide mixtures. When it is over, probably a clearer picture will be seen by those who attend the discussion and also by many others who will read the reports of what the speakers said.

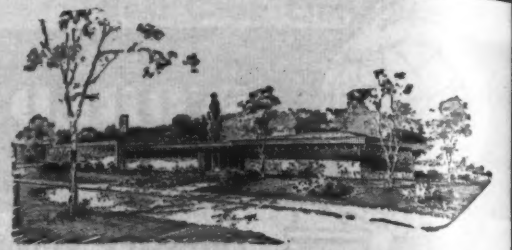
How far the manufacture and use of fertilizer-pesticide mixtures will go depends upon how soundly the technique is developed and with what restraint it is tried out. Too many mistakes will inevitably bring restrictive legislation. A careful, methodical and unhurried approach, on the other hand, is likely to bring about a general adoption of use. It is admittedly slow, but the results are more satisfactory.

## Quote

"Farmers have proven their ability to grasp the new knowledge that is supplied them by experiment stations and industry. This is proven by the rapid acceptance of hybrid corn. Within a very few years after the commercial introduction of hybrid seed corn, it was planted in nearly 100% of the corn belt corn acreage.

"At the time hybrid seed corn was introduced, it was heralded as the greatest single advance in agriculture up to that time. Since the introduction of hybrid corn, there have been many technologies introduced that are just as spectacular in their effectiveness as the hybrid seed corn. However, many of them require much more skill on the part of the farmer to realize optimum returns from their use. The proper use of fertilizer falls within this category. He must understand what ratio is needed for his land and crop; he must understand what is meant by availability, by placement, by method of application as well as rate of application.

"The very rapid advance in technologies and putting them to use put a considerable burden on our agricultural colleges and universities and upon the people in industry, to see that the farmer is supplied proper information, goods and equipment that he can put into a package on the farm and make a profit therewith."—Proctor Gull, Spencer Chemical Co., in "Tank Topics," published by Schelm Tank Co., E. Peoria, Ill.



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

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**DONALD NETH**

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## Olin Mathieson Announces New Duties for Executives

NEW YORK — Olin Mathieson Chemical Corp. has announced new duties for four of its executives. They are as follows:

Gordon Grand has been named vice president for administration. He will be responsible for the personnel and industrial relations department, the advertising and product publicity departments. Also included in his new duties are security matters and the operation of the company's Washington office.

W. J. Heckman has been named vice president for purchasing and transportation. He will supervise purchasing, transportation and trade relations at the corporate level and continues as director of purchasing.

R. E. McCormick has been appointed vice president and secretary of the corporation. He will administer the legal affairs and legal personnel of the corporation. Mr. McCormick remains as general counsel.

D. G. Ward has been appointed assistant vice president for purchasing and transportation and director of transportation.

## Frontier Chemical Driver Honored

WICHITA—William Vanscorder, a driver for the Frontier Chemical Co., Wichita, has been named 1954 "driver of the year" by the Kansas Motor Carriers Assn. In 13 years of professional driving he has achieved an accident-free record of 900,000 miles.

He has twice been of major assistance to persons injured in accidents, the last time in December 1954. The first to arrive at a one-car crash, near Meade, Kansas, he gave first aid to the injured, set out warning flares for other motorists and procured ambulance aid and police service.



Phil Rariden

**APPOINTED** — Phil Rariden has been named the new Louisville, Ky., district representative for Arkell & Smiths, manufacturers of multiwall and specialty bags. Mr. Rariden will operate out of the company office in Cincinnati, Ohio, and will work under the direction of Tom L. Jones, central sales manager, Columbus, Ohio.

## SALT-TOLERANT GRASSES

YSLETA, TEXAS—As the soils of the Rio Grande Valley become saltier because of poor irrigation water, researchers are trying to find salt tolerant grasses which will supplement cotton as a major crop in the valley. At present Don Longnecker of the El Paso Valley Experiment Station is testing 15 different grasses for salt tolerance. Also he is experimenting with 20 varieties of legumes in order to find one which will take the place of alfalfa. In most parts of the valley alfalfa grows well, but the yellow clover aphid is causing considerable damage.

## Cominco Earnings Show Gain During First Quarter of 1955

MONTREAL — Consolidated Mining and Smelting Co. of Canada, Ltd., has reported a higher rate of earnings in the first quarter of this year compared with the 1954 rate.

Part of the improvement was attributed by R. E. Stavert, president, to a reduction in the inventories of finished products, particularly fertilizers. Large inventories of fertilizers accumulated in 1954 as a result of a 30% reduction in sales. Higher prices for metals also aided the improvement, Mr. Stavert added.

Fertilizer sales are expected to decline this year, because sales on the prairies have been cut by the drop in farm income. On the other hand, Cominco reports that sales to the U.S. have improved.

Intense competition, perhaps for several years, with an accompanying drop in prices, is forecast in available fertilizer markets. Last year, for the first time since pre-war days, supply exceeded demand, a situation attributed to the major expansion in the industry since 1950.

## NEW PROVOST

GAINESVILLE, FLA.—Willard M. Fifield became provost for agriculture at the University of Florida June 1, succeeding Dr. J. Wayne Reitz, who was made president of the University on April 1. Mr. Fifield has been director of the Agricultural Experiment Station since March 1, 1950, and was assistant director from July 1, 1941.



## Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$9 per column inch.

All Want Ads cash with order.

## HELP WANTED

**MAJOR CHEMICAL COMPANY EXPANDING** sales of agricultural chemicals. Openings available for experienced salesmen age 27 to 35 to be located in midwestern states. College agricultural training preferred. Address 815, Croplife, Minneapolis 1, Minn.

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## TROUBLE AHEAD?

These growers are justly proud of their crop which has germinated and passed its first big test in the struggle for survival. But trouble is just around the corner. In the soil, or at the base of the plants, are early-season insect pests, ready to feed at the farmer's expense. As the plants mature, other insects will invade the field. To make a profit, this crop needs protection.

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